Review of Chesapeake Bay 2000 Agreement Actions

Living Resource Protection and Restoration

1.1 - Oysters

1.1.1 -

By 2010, achieve, at a minimum, a tenfold increase in native oysters in the Chesapeake Bay, based upon a 1994 baseline.

Marine Resources Commission -

Year: **2003**

Approach to Implementation

The effort in Virginia primarily involves habitat restoration with shells; however, there are important elements that involve aquaculture, disease research and management strategies, and oyster stock monitoring.

State Role

There is currently consensus on a Baywide strategy for oyster restoration involving 10% of the available oyster grounds being dedicated and restored for oyster sanctuaries (primarily 3-dimensional reefs), and the remainder restored for oyster production. The effort in Virginia primarily involves habitat restoration with shell; however, there are important elements that involve aquaculture, disease research, management strategies, and oyster stock monitoring.

Progress/Outlook

- More than fifty, 3-dimensional reef sites have been contructed Baywide since 1993.
- Stock assessment of current oyster populations indicate lower populations of oysters in 2002 than in 2001, and only 40% of the numbers of oysters as in 1994 (the baseline for this commitment) despite the significant increase in funding and effort since that time.
- Management strategies currently being implemeneted appear not to be increasing oyster population numbers, as weather and disease still have the greatest effect on short term and local population levels. There have been significant increases in citizen aquaculture efforts to grow oysters, and this should continue.
- Counteracting the devastating impacts of oyster diseases is the most important issue. 2002 was the third year of significant drought conditions, salinities were high, and oyster disease impacts were severe throughout Virginia and almost all of Maryland. These conditions were reversed in 2003, as record rainfall lowered salinities to the point that oyster mortalities occurred in many areas.
- Clutch is currently limited to shucked, fresh shell and to available deposits of fossil shell.
- Fossil shell mining permits have been difficult to obtain for both States, and permit requirements have reduced the potential for success.
- There will be a significant shortage of Chesapeake Bay oysters Baywide at least through 2006, which will severely impact the oyster industry.

Additional Efforts
There has been significant progress in habitat restoration with the increased funding from parnerships, such as the Virginia Oyster Heritage Program. Federal partners including the Army Corps of Engineers, National Oceanic and Atmospheric Administration (NOAA), and EPA, as well as State and private sources have contributed significant levels of funding.

At least 150 acres of harvest area and 10 sanctuary reefs will be required per year to meet this commitment. Dependable and reasonably priced sources of oyster reef building and clutch materials must be located for the restoration efforts to continue.

Acres of harvest area restored
2710

Acres of sanctuary reefs restored
80

1.1.2 -
By 2002, develop and implement a strategy to achieve this increase by using sanctuaries sufficient in size and distribution, aquaculture, continued disease research and disease-resistant management strategies, and other management approaches.

Marine Resources Commission -

Year: **2003**

Approach to Implementation
The Baywide Oyster Plan is being developed that builds upon the scientific and Baywide consensus that 10% of the available oyster grounds be dedicated and restored for oyster sanctuaries (primarily 3-dimensional reefs) and the remainder restored for oyster production.

The development of this plan is a coordinated effort among all Bay partners.

State Role
State government participants include: DEQ, MRC and VIMS.

This is a Baywide commitment, with many State, federal, and private partners committing to the effort.

Progress/Outlook
The current native oyster restoration strategy is a long-term strategy (decades to generations), which will require significant clutch restoration efforts for the entire period.

Additional Efforts

1.2 - Exotic Species

1.2.1 -
In 2000, establish a Chesapeake Bay Program Task Force to: 1) Work cooperatively with the U.S. Coast Guard, the ports, the shipping industry, environmental interests and others at the national level to help establish and implement a national program designed to substantially reduce and, where

possible, eliminate the introduction of non-native species carried in ballast water; and 2) By 2002, develop and implement an interim voluntary ballast water management program for the waters of the Bay and its tributaries.

1.2.2 -
By 2001, identify and rank non-native, invasive aquatic and terrestrial species, which are causing or have the potential to cause significant negative impacts to the Bay's aquatic ecosystem. By 2003, develop and implement management plans for those species deemed problematic to the restoration and integrity of the Bay's ecosystem.

Department of Game and Inland Fisheries -

Year: **2003**

Approach to Implementation

1. Develop statewide and regional management plans for top ranked species.
    - Develop a model management plan.
    - Develop generic recommendations for regional approaches.
    - Develop a framework for future management plans.
2. Obtain funding for regional pilot projects - Mid-Atlantic Aquatic Nuisance Species Panel, Baywide management plans, and ballast waters.
3. Develop and implement prevention and control programs including a Baywide management plan.

State Role

The General Assembly in 2003 established the Virginia Invasive Species Council as an executive policy council to provide state leadership and oversight regarding invasive species, and to prepare a Virginia invasive species management plan. The Council consists of nine members including the Secretary of Natural Resources and representatives of DACS, DCR, VIMS, MRC, DOF, DGIF, DOH, and DOT. Staff support for the Council and for the advisory committee of stakeholders to be established by the Council is provided by DCR.

Progress/Outlook

- For the "Invasive Species in the Chesapeake Bay Watershed Conference" held in May 2002, representatives from Virginia agencies and universities developed a preliminary list of the current and potentially most problematic invasive species in Virginia. The five species designated as most currently problematic include Asiatic clam, blue catfish, hydrilla, phragmites, and purple loosestrife. The Asian Swamp eel, Canada goose, flathead catfish, giant salvinia, grass carp, mute swan, nutria, West Nile virus and tiger mosquito, and zebra mussel were also idendified as current or potential invasive threats by Virginia representatives at the conference.
- At the same conference, workgroups developed functional models for management plans addressing the six species identified collectively as the six most significant invasive species in the watershed, including phragmites, purple loosestrife, water chestnut, mute swan, nutria, and zebra mussel.

- The General Assembly in 2003 enacted the Virginia Nonindigenous Aquatic Nuisance Species Act, which authorizes DGIF to conduct operations and measures to suppress, control, eradicate, prevent, or retard the spread of any nonindigenous aquatic nuisance species, and further authorizes DGIF to cooperate with federal, state, or local agencies or authorities in pursuance of this objective. The Act lists zebra mussels, quagga mussels, and snakehead fishes as nonindigenous aquatic nuisance species, and authorizes DGIF to promulgate regulations as necessary to carry out the provisions of the article including, but not limited to, designation of other species as nonindigenous aquatic nuisances.

- DGIF worked with 16 other states and Canadian Provinces through the Atlantic Flyway Council to develop the Atlantic Flyway Mute Swan Management Plan. The Flyway Council approved the plan in July 2003. This plan will serve as the blueprint for states outlining the goals and objectives for management of this invasive exotic species, particularly in the Chesapeake Bay area.

- DGIF worked with other states and federal agencies to develop the Chesapeake Bay Regional Zebra Mussel Management Plan. The initial draft was completed in September 2003, and will serve as a blueprint for states to outline their goals and objectives for management of this invasive exotic species, particularly in the Chesapeake Bay area.

- The Millbrook Quarry Zebra Mussel ad-hoc workgroup, led by DGIF, has continued to address the infestation with zebra mussels of Millbrook Quarry in Prince William County. Baseline assessment of the hydrology, geology, and water chemistry of Millbrook Quarry has been completed, as has the qualitative evaluation of that zebra mussel infestation. There is workgroup consensus to immediately pursue eradication of the infestation. DGIF is pursuing funding for this project, and is reviewing proposals to eradicate the mussels submitted in response to an emergency procurement solicitation for that purpose.

- DGIF had to remove the mute swan as a nuisance species by regulation as a result of a court decision by Friends of Animals against the state of Maryland and the US Fish and Wildlife Service claiming protection for the mute swan under the Migratory Bird Treaty Act. This is a major setback in the management of this exotic invasive species. The protection category now placed on mute swans restricts the ability to properly manage this species. Depredation permits once issued by the U.S. Fish and Wildlife Service (USFWS) are now on hold as well until a final ruling is made by the courts.

- A proposed rule was published in August 2003 by the USFWS on proposed regulations for managing resident Canada goose populations. The rule would authorize state wildlife agencies to conduct (or allow) indirect and/or direct population control management activities on resident geese. Comments on the rule will close October 2003 and a final rule will be published sometime late 2003 or early 2004. DGIF intends to use the final regulations as guidelines for a state plan on resident goose management.

- Significant effort was directed at preventing snakehead fish from becoming an established exotic species in Virginia. Brochures to distinguish between the snakehead and similar appearing native species (eels and bowfin) were

developed and distributed to the public and were posted on the DGIF website. Pertinent information was widely distributed to the press. Routine surveys of Virginia streams continue, with no collection of the species to date, and a regulation was enacted prohibiting the possession of snakehead fish in Virginia.

- The Virginia interagency Exotic Species Workgroup has not met since last year. Protocols were proposed for documenting problems regarding individual species, but no further action was taken regarding these protocols.

- Eradication or control of some established exotic species is feasible. Prevention of accidental introductions of others will be very difficult, and deliberate illegal introductions of some species are likely.

Additional Efforts

Blue catfish are found in the tidal James, Pamunkey, Mattaponi, and Rappahannock rivers. They are becoming an important trophy fishery in those waters. Extensive summer sampling of blue catfish has not documented any predation on juvenile shad. When fish are found in the stomachs, the primary components are *Corbicula*, smaller blue catfish, white perch, and gizzard shad. On the Mattaponi, blue catfish may be important predators on the native mussel community. Blue crabs have occurred in some stomachs, perhaps due to the increased euryhaline environment resulting from the 2001-2 drought. In those same years blue crabs were documented in the lower end of the James River fall line.

Biologists have electrofished Dragon Run in an effort to remove young-of-the-year blue catfish. Multiple passes in the stream were conducted; no blue catfish were collected during the last run, and none were collected in subsequent samples.

1.3 - Fish Passage and Migratory and Resident Fish

1.3.1 -

By June 2002, identify the final initiatives necessary to achieve our existing goal of restoring fish passage for migratory fish to more than 1,357 miles of currently blocked river habitat by 2003 and establish a monitoring program to assess outcomes.

Department of Game and Inland Fisheries -

Year: **2003**

Approach to Implementation

- Shape federal legislation, regulations and programs
- Participate in Fish Passage Task Group of the Chesapeake Bay Program's Non-Tidal Habitat Workgroup
- Obtain funding for programs supporting fish passage implementation and monitoring

The state takes a coordinated approach to its participation on the Fish Passage Task Group of the CBP's Non-tidal Habitat Work Group. The state maintains a statewide fish passage impediment database that aids in the site selection process. Priorities are determined by selecting those projects that will provide the greatest benefits to the resident and migratory fish stocks, while maximizing habitat restoration. A GIS coverage of the anadromous fish spawning and nursery areas and migration routes is being further developed for major watersheds through federal/state interagency review of the data layers initially created by the state. The state has a GIS tool for the

Rappahannock River Basin using state and federal data layers. GIS tools will continue to be used in the site selection process.

The state monitors the Boshers Dam fishway on the James River and will monitor fish passage on the Rappahanock River when Embrey Dam is removed. The state also monitors the success of the Boshers Dam fishway by sampling the juvenile shad population to determine the ratio of wild vs. stocked fish. Juvenile sampling is also now conducted on the Rappahanock River for the same purpose.

State Role

State government participants include: DGIF, MRC, VCU and VIMS.

Virginia's portion of the ten-year Bay-wide restoration goal for passage of 1,357 miles is 415.5 miles. A coordinated approach is being taken to achieve that goal.

In addition to fish passage, the state also is leading the effort to reintroduce American shad to historical spawning and nursery grounds in tributaries of the Bay through a multi-state and federal agency hatchery stocking and monitoring program. Additional state activities related to the goal include stocking and data analysis.

Progress/Outlook

The Ten-Year goal was originally set to end in 2003 but the Chesapeake Bay Program has moved the new ending date to 2004 to accomplish projects throughout the Bay watershed that have been delayed for various reasons. Achievement of Virginia's portion of the "Ten-Year" Goal of 415.5 miles (now by the end of 2004) is likely but not certain.

- Abutment Dam fish passage project on the Appomattox River was completed in 2003 and opened for operation in spring 2003; reopened 1.3 miles up to Brasfield Dam (state and federal funding).

- Embrey Dam on the Rappahannock will be passable by spring 2004 and completely removed by 2006 (federal funding from this point out); will reopen 71 miles. Sediment dredging commenced in August 2003 and federal funding is expected to complete the project.

- Brasfield Dam (Appomattox/FERC) fish elevator is scheduled for completion in 2004 for spring 2005; will reopen 120 miles.

- In 2003 the Town of Orange completed a Denil fishway on their rebuilt water supply dam on the Rapidan River currently for resident fish until Embrey Dam is removed and the Rapidan Dam at Rapidan is dealt with.

Final initiatives to complete the 2003 Ten-Year Goal (now 2004) have been identified. Several projects on tributaries are being explored at dams and road culverts (removals, fishways).

Virginia had reopened 37 miles prior to the setting of the ten-year goal via fish passage projects at Walker's, Manchester, Brown's Island, and Harrison Lake Dams. Since 1993, an additional 154.9 miles have been reopened (William's Island, Boshers, Chandler's, Harvell, and Abutment Dams), for a total of 191.9 miles. Virginia has identified the final initiatives necessary to complete its portion of the ten-year goal. Passage projects at Brasfield Dam on the Appomattox (120.1 miles), Embrey Dam on

the Rappahannock (70.6 miles), and the Ashland Mill and Ashland Water Supply dams (37 miles) on the South Anna River, would elevate the Virginia total to 419.6 miles and satisfy the Virginia commitment. The fish lift at Brasfield Dam should be completed in 2004 and go into operation in 2005. The U.S. Army Corps of Engineers in cooperation with the state, the City of Fredericksburg, and Stafford County contracted the construction of a dredge containment site and recently began the actual dredging process due for completion in January 2004. A 200ft section of the dam will be removed in February 2004 followed by complete removal by 2006.

A total of 22 species of fish have been documented at the Boshers Dam fishway including the primary target species American shad and blueback herring (few). Absolute numbers of American shad have been relatively low but numbers continue to increase annually. Most of the target species are using the Harvell Dam fishway (VCU graduate student 2002 in cooperation with VDGIF).

American shad stocking efforts continue on the James River (Pamunkey brood source) above Boshers Dam and efforts were expanded to include the Rappahannock River (Potomac brood source) above Embrey Dam. To date 96.5 million tagged shad fry have been released: James - 72.1 million, Pamunkey - 23 million, and Rappahannock – 1.4 million (2003 initial year). Adult shad of hatchery origin have now reached maturity and have been returning to the James and Pamunkey rivers since 1997.

Wild juvenile shad were documented above Boshers Dam in 2000, 2001 and 2002 by the Fish Passage and Shad Restoration programs.

Additional Efforts

No additional efforts are required to identify the final projects necessary to meet the ten-year goal (extended into 2004).

The monitoring program for the Boshers Dam fishway will continue to be fine-tuned, and the data analyzed to learn more about the target species. A monitoring plan for Harvell Dam will hopefully result from the VCU thesis work conducted in 2002. The state will implement a monitoring program for the Abutment fishway if adequately staffed. When Embrey Dam is removed, the state will expand its Rappahannock River alosine monitoring efforts to include upstream sites to monitor the success of the removal.

1.3.2 -

By 2002, set a new goal with implementation schedules for additional migratory and resident fish passages that addresses the removal of physical blockages. In addition, the goal will address the removal of chemical blockages caused by acid mine drainage. Projects should be selected for maximum habitat and stock benefit.

Department of Game and Inland Fisheries -

Year: **2003**

Approach to Implementation

Same approach and techniques as reported in 1.3.1.

State Role

State government participants include: DGIF, MRC, VCU, and VDOT.

The state will continue to participate in the Bay Program and coordinate its fish

passage efforts through the Fish Passage Task Group of the Non-Tidal Habitat Workgroup. Virginia will also continue the American shad stocking effort to supplement wild spawning.

Progress/Outlook

The state is participating in the Chesapeake Bay Program's effort to establish a new fish passage goal for the next several years. The 1993 ten-year goal's ending date was moved to 2004. The new fish passage goal should begin in 2005. When established, the new goal will include a numeric goal in terms of mileage opened and the number of projects to be completed as well as the methods for prioritizing projects. The new goal will also most likely address the need to monitor stock utilization of reopened waters and population recovery.

In Virginia, several potential projects are being considered in the James, Rappahannock, and York basins. For example, plans are being developed to explore the removal of Woolen Mills Dam on the Rivanna River, which is the first blockage on that river. The Rappahannock Basin Impediment Survey conducted by the state identified several dams and road culverts that may require fish passage. Scheduled projects such as the removal of Embrey Dam will lead to exploration of upstream projects such as the Rapidan Dam on the Rapidan River that is a significant tributary of the Rappahannock with known historical use by migratory fishes.

Virginia has no known chemical blockages that currently impede migration of target species.

Additional Efforts

Additional identification of potential sites is needed followed by setting implementation schedules and securing funding sources to conduct the identified projects.

1.3.3 -

By 2002, assess trends in populations for priority migratory fish species. Determine tributary-specific target population sizes based upon projected fish passage, and current and projected habitat available, and provide recommendations to achieve those targets.

Marine Resources Commission -

Year: **2003**

Approach to Implementation

Share and synthesize information; implement restoration programs:

- Fish Passage Program (coordinate fishway construction, dam removal, fishway and river monitoring and planning).
- American Shad Restoration Program (fry stocking; structured cooperation among agencies and institutions; state and federal funding.)
- Modernize estimates of current and projected population sizes.
- Continue relative abundance estimates of alosine fish in the fall zone.
- Continue striped bass status assessment annually.

- Development and modification of interstate and Chesapeake Bay Fishery Management Plans.

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Previous efforts to characterize the biological health or stock status of striped bass, American shad and river herring (blueback herring and alewife) will continue in 2002 and beyond. Of the four species, all are managed by an interstate (Atlantic States Marine Fisheries Commission) and Chesapeake Bay management plan, but only striped bass is considered as a restored population; the others (alosines) are considered as moderately to severely depleted. Similarly, a clear trend in abundance or exploitation only exists for striped bass. Since landings or harvest data no longer provide an adequate measure of relative abundance for these species (striped bass is under quota, American shad harvest is under a moratorium and herring harvests are sporadic), other methods, such as mark-recapture, need to be continued and improved. Efforts to modernize estimates of current and projected population sizes and habitat availability will begin by 2002, as past estimates of system- and stock-specific carrying capacities and spawning acreage, for these important species, is dated (1987). Status of the Virginia “stock” of striped bass will continue to be assessed each year, using estimates of survival from Bay-wide mark-recapture programs. Virginia will need to continue its programs for monitoring relative abundance of striped bass juveniles, American shad juveniles and adults and river herring juveniles, at a minimum. Owing to the moratorium on American shad, special programs will be needed to develop estimates of adult abundance and potential fishing mortality rate targets, on a tributary-specific basis.

State Role

State government participants include: DGIF, MRC and VIMS.

State programs are adequate and necessary (Atlantic States Marine Fisheries Commission plan compliance requirements) for monitoring the status of the striped bass stock. Recent federally-funded state programs to assess relative abundance and relative exploitation riverine stocks of American shad will need to continue and be augmented by projects to estimate actual adult stock abundance, in order to establish first-order target fishing mortality rates. The state and federal agencies will work towards the development of modern estimates of tributary-specific target stock sizes for American shad and river herrings, but this process will be hampered by a lack of knowledge about current stock sizes. For example, the state has been monitoring the relative abundance of migratory fishes at the fall line of Virginia’s tributaries for several years. While this data gages inter-annual abundance trends it cannot be used to estimate actual stock sizes.

Progress/Outlook

- American shad are under a harvest moratorium on the Bay and its tributaries. In 2005 the moratorium will extend to ocean waters as well. American shad fry are stocked annually in the James River to enhance the population. American shad numbers continue to increase annually at Boshers fishway. American shad fry stocking began on the Rappahannock River in 2003.

- A clear trend in actual abundance or exploitation only exists for striped bass. Striped bass stock sizes for Virginia are at an all-time high, based on several

surveys.

- Relative abundance estimates of alosine fish in the fall zone continue.
- River herring (alewife and blueback herring) are considered depleted.
- Restoration of migratory fish populations possible, but requires long-term commitment.

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Absent current knowledge about the stock status of American shad and the river herrings, a considerable effort will be needed to develop approximate tributary-specific target stock sizes for American shad and river herrings, based on projected fish passage. The Boshers Dam fishway is monitored by the state to estimate the number of American shad moving into the upper James River annually. This type of information may prove to be a useful tool in tracking the progress of restoration efforts. Current knowledge of the status of the Bay-wide stock of striped bass and projected fish passage acreage still will not afford a clear-cut opportunity to devise tributary-specific targets for this species; as striped bass is less dedicated to specific tributaries, in comparison to the alosine species.

Additional Efforts

- A considerable effort is needed to develop approximate tributary - specific target stock sizes for American shad and river herrings, based on projected fish passage.
- Striped bass are less dedicated to specific tributaries than alosine fish making it more difficult to set tributary-specific targets for striped bass.
- Restoration of commercial fisheries is questionable and highly dependent on support of harvesters for restoration programs: - Offshore American shad harvest will be eliminated in 2005(required by Atlantic States Marine Fisheries Commission). - A quantified assessment of river herring stock sizes is needed.
- In the near future fishery independent programs must be developed to ascertain reliable measures of American shad and river herring abundance and exploitation levels because there is no fishery-dependent data source.

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Of these four species, knowledge of the health or stock status of the alosines needs significant improvements. It will take several years and additional, dedicated programs to achieve a sound perspective on the biological status of these species.

1.3.4 -
By 2003, revise fish management plans to include strategies to achieve target population sizes of tributary-specific migratory fish.

Marine Resources Commission -

Year: **2003**

Approach to Implementation

Virginia actively participates in the development and modification of interstate and Chesapeake Bay Fishery Management Plans for these species, but the Chesapeake Bay plans would serve to house any strategies devised for achieving target population (stock) sizes. Since the Virginia in-river and Chesapeake Bay fisheries for American shad stocks are under moratorium, any initial attempts to devise more than highly approximate target levels of abundance depend on current and needed programs designed to obtain even relative indicators of American shad tributary-specific abundance. Currently, there exists a mixed-stock fishery for American shad along Virginia's coast for which a 40% reduction in effort is mandated by the relevant IFMP by 31 December 2002, and that does represent a strategy of the interstate plan to improve the health of in-river stocks. River herring (blueback herring and alewife) stocks are considered depleted, but a quantified assessment of stock sizes does not currently exist. Striped bass stocks are considered as recovered and are fished according to harvest targets set annually by the interstate plan. Stock sizes for Virginia are at an all-time high, based on several surveys.

State Role

State government participants include: DGIF, MRC, ODU, VCU and VIMS.

The state has a coordinated approach to monitoring programs that are mandated by the relevant interstate fishery management plans or recommended by the Chesapeake Bay fishery management plans. State agencies and universities conduct the monitoring programs. Results of these monitoring efforts are used in annual determinations of harvest levels for recreational and commercial fisheries for striped bass, to assess the status of American shad stocks, and provide necessary revisions of the Chesapeake Bay fishery management plans. The Chesapeake Bay fishery management plans would be appropriate for including any necessary strategies designed to achieve target stock levels for these important species.

Other data from state long-term monitoring of the relative abundance of migratory fishes at the fall line may be useful for inter-annual trend analysis

Progress/Outlook

The 2003 commitment is especially relevant to American shad since these stocks are under restoration, a Chesapeake Bay-wide moratorium, and are subject to an unknown level of exploitation by a coastal fishery. Revising management plans to implement the scheduled reduction in coastal fishing effort may or may not serve to significantly improve current American shad population sizes. Ultimately, a total ban on fishing for American shad in Virginia coastal waters, combined with in-river state restoration efforts will constitute the revised fishery management plan to achieve the targets for American shad. As a result of the current harvest moratorium, we cannot apply traditional stock assessment methods that employ fishery-dependent data to the problem of setting restoration targets. In addition, we cannot set targets that require fishery-dependent data to measure achievement. In the near future fishery-independent programs must be developed to ascertain reliable estimates of American shad abundance and river herring abundance and exploitation levels. However, we currently do not have the reources necessary to support this type of research.

Additional Efforts

A target-setting workshop for American shad was held in 2001. Participants included scientists and managers from Virginia State agencies and universities and stock

assessment experts from outside the Commonwealth. The workshop examined independent technical methods to set meaningful restoration targets and produced a published document that details these approaches and recommends methods to set meaningful targets. The workshop represented only the first step towards developing appropriate strategies to achieve target stock sizes, where necessary, on a species-specific basis.

1.4 - Multi-species Management

1.4.1 -

By 2004, assess the effects of different population levels of filter feeders such as menhaden, oysters and clams on Bay water quality and habitat.

Marine Resources Commission -

Year: **2003**

Approach to Implementation

Utilize the NOAA Chesapeake Bay Fishery Ecosystem Plan to define ecosystem linkages and effects of population levels of filter feeders.

State Role

State government participants include: MRC and VIMS.

Virginia continues to monitor the stock status of key filter feeders. In turn, changes in abundance (for example) of key filter feeders can be associated, to an extent, with changes in water quality and habitat.

Progress/Outlook

- Zooplankton Index of Biotic Integrity program funded (EPA/CBP).
- Continuing SAV distribution annual survey (EPA/CBP).
- CBP Scientific Techinical Advisory Committee workshop held on suspension-feeder modeling, and modeling funds allocated for 2002 (EPA/CBP).
- Costs of establishing species inventory and interactions is extensive.
- Accuracy and efficiency of stock assessments will be improved.

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Data collection is ongoing, and historical data exist from several sources, to assist in assessing these inter-relationships and afford a broad-based characterization of the variability among these three components of ecosystem dynamics.

Additional Efforts

Efforts will be needed to collect and condense historical data sets. Comprehensive shellfish standing stock estimates (such as those previously accomplished) will be necessary to delineate cause and effect relationships among physical, chemical and biological components.

1.4.2 -

By 2005, develop ecosystem-based multi-species management plans for targeted species.

Marine Resources Commission -

Year: **2003**

Approach to Implementation

1. Utilize the NOAA Chesapeaek Bay Fishery Ecosystem Plan to define ecosystem linkages and the priorities for multi-species plan development.

2. Continue development, implementation and review of multispecies FMPs.

State Role

State government participants include: MRC and VIMS.

Virginia has initiated several approaches towards the development of ecosystem-based multi-species plans. The state has been funded by the Environmental Defense to assess existing information on trophic-level interactions, and preliminary work on the simulation of a multi-species (finfish) model, as part of a Chesapeake Bay Stock Assessment Committee (NOAA) funding, has been completed. Additionally, the Chesapeake Bay Living Resources Subcommittee's Fisheries Management Planning and Coordination Workgroup has initiated discussions on multi-species plan formulation.

Progress/Outlook

Preliminary analysis of fisheries data with strategy tools identified:

1. Baywide multi-species monitoring program in progress (NOAA); Juvenile finfish trawl survey (CHESFIMS) conducted by Chesapeake Biological Labs; Adult finfish trawl survey (CHESMAP) conducted by VIMS.

2. Modeling (single species and multi-species) (EPA/CBP, NOAA/CBP); Entering data for ecosystem model (ECOpath with ECOsim); Multi-speciies assessment model under development.

3. Fishery Ecosystem Plan to be completed by 2003.

Additional Efforts

1. Affords better estimate of stock size and productivity of many species.

2. Need to assess benefits of desired biomass of predator and prey populations.

3. Able to use modles to include more dynamic species interactions.

1.4.3 -

By 2007, revise and implement existing fisheries management plans to incorporate ecological, social and economic considerations, multi-species fisheries management and ecosystem approaches.

Marine Resources Commission -

Year: **2003**

Approach to Implementation

- Expand the scope of fisheries management planning.

- Coordinate interests of the Chesapeake Bay Program partners and identify emerging fishery interests.

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Implementation depends on the soundness of the biological foundation of the plan. For example, it will be easier to incorporate these considerations into a multi-species plan for biologically stable species. The choice of target species will also determine the success in implementing such a plan.

State Role
State government participants include: MRC.

The state standards for preparing single species fisheries management plans include consideration of social and economic factors. Incorporation of these factors and ecological considerations into a multi-species plan will entail extensive outreach to stakeholders, but efforts may be complicated by existing or new requirements associated with interstate or federal mandates.

Progress/Outlook
Dependent on the development of ecosystem-based mulit-species management plans for targeted species.

Additional Efforts
These will be determined as progress on plan development occurs.

1.5 - Crabs

1.5.1 -
By 2001, establish harvest targets for the blue crab fishery and begin implementing complementary state fisheries management strategies Baywide. Manage the blue crab fishery to restore a healthy spawning biomass, size and age structure.

Marine Resources Commission -

Year: **2003**

Approach to Implementation

- Manage to augment the spawning stock: - Through short-term reductions in harvest or effort. - Through maintenance of long term spawning sanctuaries.

- Protect and restore submerged aquatic vegetation to: - Reduce blue crab natural mortality events.

- Coordinate effective management strategies to: - Continue involvement and education of all stakeholders. - Assess effectiveness of existing regulations. - Complement other Chesapeake Bay jurisdictions' conservation measures.

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Harvest targets and thresholds have been adopted for the Chesapeake Bay population of blue crabs. Each bay jurisdiction has adopted regulatory measures to reduce harvest

by 15 percent to achieve a doubling of the crab spawning stock.

State Role

State government participants include: MRC and VIMS.

Virginia, Maryland and the Potomac River Fisheries Commission have adopted fishing mortality rate target and threshold as well as a stock biomass target and threshold. These measures will guide management in the future.

Progress/Outlook

- New harvest reduction measures were established in 2001 and 2002.
- The Baywide target of a 15% reduction in harvest by 2003 has been achieved.
- Virginia has met its 15% reduction target for 2003. Additional expansion of summer spawning sanctuaries is complete. 2002 data indicate a slight increase in the spawing stock size.
- An increase in SAV since 1999 follows a 6-year period of decline.
- Despite the increase in the spawning stock, it is still at a very low level.
- Assuming optimal environmental conditions, spawning stock should double in 3-4 years.
- Funding reductions at VMRC may lead to decreased enforcement efforts, which may result in increaed illegal harvesting. Therefore, overall crab harvest limits might not be maintained.

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Achieving the target fishing mortality rate (F=0.7) may require more than a 15% reduction in the Bay-wide harvest of blue crab, if current low abundance levels decline further. It is evident that harvest reduction strategies, alone, may not afford the best approach for achieving the target fishery mortality rate. Management strategies that will augment spawning or abundance (such as closed areas or sanctuaries), in conjunction with harvest effort reductions will be required to effectively reduce the fishing mortality rate.

Additional Efforts

Managers and the harvesting and processing sectors associated with the blue crab fishery will need detailed economic information on the benefits and detriments associated with gear-specific or market category-specific modes of harvest. In conjunction with the economic issues, the biologists need to develop safe levels of take from the various peeler and hard crab fisheries.

Vital Habitat Protection and Restoration

2.1 - Submerged Aquatic Vegetation

2.1.1 -

Recommit to the existing goal of protecting and restoring 114,000 acres of submerged aquatic vegetation (SAV).

Marine Resources Commission -

Year: **2003**

Approach to Implementation
This was an Executive Council commitment by adoption of Chesapeake 2000 Agreement. Bay Program Partners have set a new bay grass restoration goal of 185,000 by 2010.

State Role
N/A see commitment 2.1.2 and commitment 2.1.3

Progress/Outlook
N/A see commitment 2.1.2 and commitment 2.1.3

Additional Efforts
N/A see commitment 2.1.2 and commitment 2.1.3

Acres of SAV restored
89658

2.1.2 -
By 2002, revise SAV restoration goals and strategies to reflect historic abundance, measured as acreage and density from the 1930s to the present. The revised goals will include specific levels of water clarity that are to be met in 2010. Strategies to achieve these goals will address water clarity, water quality, and bottom disturbance.

Marine Resources Commission -

Year: **2003**

Approach to Implementation
Bay Program Partners have set a new bay grass restoration goal of 185,000 acres by 2010. A Chesapeake Bay Program SAV Strategy document has been developed entitled "Strategy To Accelerate The Protection And Restoration of Submerged Aquatic Vegetation In The Chesapeake Bay".

This strategy has four essential elements which are mutually complementary and will be pursued simultaneously: (1) for areas where SAV should grow, the CBP partners will complete the establishment of water quality criteria and water quality standards, and thereafter implement them to achieve the water quality necessary to provide for SAV recovery in areas designated for that use; (2) for areas where SAV grows, protect existing SAV beds from destructive anthropogenic activities and invasive species; (3) for areas where water quality is suitable but where SAV does not yet grow, accelerate SAV restoration by planting 1,000 acres of new SAV beds by December 2008; and (4) strengthen the scientific and public support for SAV protection and restoration through enhanced SAV research, citizen involvement and education.

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State Role

State government participants include: DCR, DEQ, MRC and VIMS.

Agencies most involved in efforts necessary for SAV restoration and protection include the MRC (State-owned submerged lands management), VIMS (transplantation research and monitoring), DCR (Non-point source pollution management) and DEQ (Point source pollution management).

Progress/Outlook
The 2001 SAV survey of the CBP documented 85,415 acres of SAV throughout the entire Bay and tributaries. This is up from 41,397 that existed in 1978 the first time a complete survey was conducted, and more than the previous peak abundance of 73,082 acres recorded in 1993

Additional Efforts
- Restoration will be dependent on improvements in water quality.

- Restoration and protection efforts involve management of State owned submerged lands (MRC), transplantation research and monitoring (VIMS), point source pollution management (DEQ) and non-point source management (DCR).

- Strategy implementation in part through shallow water management plan under development in response to House Joint Resolution 765 (2001 Session).

- Planting and translantation efforts will be dependent on research and development of funding sources as well as support of voluntary programs.

- Continuation of annual monitoring essential.

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2.1.3 -
By 2002, implement a strategy to accelerate protection and restoration of SAV beds in areas of critical importance to the Bay's living resources.

Marine Resources Commission -

Year: **2003**

Approach to Implementation
A Chesapeake Bay Program SAV Strategy document has been developed entitled "Strategy To Accelerate The Protection And Restoration of Submerged Aquatic Vegetation In The Chesapeake Bay".

This strategy has four essential elements which are mutually complementary and will be pursued simultaneously: (1) for areas where SAV should grow, the CBP partners will complete the establishment of water quality criteria and water quality standards, and thereafter implement them to achieve the water quality necessary to provide for SAV recovery in areas designated for that use; (2) for areas where SAV grows, protect existing SAV beds from destructive anthropogenic activities and invasive species; (3) for areas where water quality is suitable but where SAV does not yet grow, accelerate SAV restoration by planting 1,000 acres of new SAV beds by December 2008; and (4) strengthen the scientific and public support for SAV protection and restoration through enhanced SAV research, citizen involvement and education.

State Role
State government participants include: DCR, DEQ, MRC and VIMS.

Agencies most involved in efforts necessary for SAV restoration and protection include the MRC (State-owned submerged lands management), VIMS (transplantation

research and monitoring), DCR (Non-point source pollution management) and DEQ (Point source pollution management).

Progress/Outlook

The 2002 SAV survey of the CBP documented 89,658 acres of SAV throughout the entire Bay and tributaries. This is the highest level reached since 1978, when 41,397 acres were reported the first time a complete survey was conducted.

Additional Efforts

- Restoration will be dependent on improvements in water quality.

- Restoration and protection efforts involve management of State owned submerged lands (MRC), transplantation research and monitoring (VIMS), point source pollution management (DEQ) and non-point source management (DCR).

- Strategy implementation in part through shallow water management plan under development in response to House Joint Resolution 765 (2001 Session).

- Planting and translantation efforts will be dependent on research and development of funding sources as well as support of voluntary programs.

- Continuation of annual monitoring essential.

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2.2 - Watersheds

2.2.1 -

By 2010, work with local governments, community groups and watershed organizations to develop and implement locally supported watershed management plans in two-thirds of the Bay watershed covered by this Agreement. These plans would address the protection, conservation and restoration of stream corridors, riparian forest buffers and wetlands for the purposes of improving habitat and water quality, with collateral benefits for optimizing stream flow and water supply.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

A taskforce was formed to guide implementation. Members represent OSNR, DCR, CBLAD, DEQ, DOF, DGIF, VACO, VML, VA SWCD, VIMS, City of Chesapeake, Fairfax Co., Northern VA Regional Planning Commission, Canaan Valley Institute, Alliance for the Chesapeake Bay, Cheasapeake Bay Foundation, and Friends of the Rappahannock. Taskforce defined watershed management planning for Virginia and identified current watershed management planning efforts, as well as training and tracking needs for future watershed planning efforts.

The Taskforce determined that a watershed management planning guide should be developed for use by local governments and CWOs. Once developed several workshops should be conducted to promote the guide to state government staff, as well as local governments and CWOs.

State Role
DCR and CBLAD team effort.

Progress/Outlook
- Two guides were developed- *Local Watershed Management Planning in Virginia* and *Local Watershed Management Planning in Virginia: A Guide for Communities*
- Watershed Management Planning workshops were planned in partnership with the Virginia Institute for Innovative Governance, VA Tech
- Three workshops were conducted to introduce the guide to state agency staff. Letters of invitation were sent to agency Directors from the OSNR.
- Six workshops were conducted throughout the state for local governments and community watershed organizations
- Mini-grants will be awarded to targeted groups with demonstrated capacity to successfully develop and implement a watershed management plan
- Virginia CWiC taskforce expanded to address all C2K commitments affecting local governments and CWOs to form Virginia Watershed Advisory Committee

Additional Efforts
In partnerships with the CBP CWiC Taskforce, and the National Parks Service, Rivers and Trails Conservation program, Virginia representatives have been working on developing Community Watershed Dialogues. These Dialogues will be conducted as a follow-up to previous watershed management planning workshops in localities that have requested further assistance with or expressed interest in developing watershed management plans. The NPS has hired two Watershed Coordinators that will provide assistance to state staff in working with localities to develop watershed management plans.

Several localities have begun developing and implementing Watershed Management Plans, and are using the guidebooks for assistance. Additionally, localities are developing Tributary Strategies that will address nonpoint source pollution reductions via watershed management and sound land use management principles.

2.2.2 -
By 2001, each jurisdiction will develop guidelines to ensure the aquatic health of stream corridors. Guidelines should consider optimal surface and groundwater flows.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation
Virginia Natural Resource Agencies have set forth specific criteria through existing programs and initiatives. The tributary strategies steering committees, watershed forums (watershed conservation roundtables, commissions and councils) and local governments are implementing this commitment through these existing programs to include erosion and sediment control, stormwater and stream buffer ordinances and regulations.

State Role

State government participants include: CBLAD, DCR, DEQ, DGIF, DOF and VIMS.

Virginia agencies will continue to support local efforts through technical assistance and expertise in addition to implementing existing aquatic health related programs.

Further, funding is made available when possible.

Progress/Outlook

State agencies are working to increase compliance with riparian buffer and NPS regulations. These efforts include streamlining, coordinating and clarifying programs wherever possible.

State agency representatives attended a Stream Corridor Restoration Goals Workshop on May 7, 2003 in Baltimore, Maryland. The purpose of the workshop, sponsored by the CBP Scientific and Technical Advisory Committee, was to introduce watershed management and stream corridor restoration to individuals whom may be responsible for implementing the goal. The workshop consisted of a morning session related to defining stream corridor restoration, watershed management plans and the issues related to each jurisdiction. The afternoon session consisted of case studies regarding watershed management and jurisdictional breakouts to discuss the overall goal. In addition, the breakout sessions addressed the following:

- Defining stream corridor and stream corridor restoration
- Identifying minimum criteria for stream corridor restoration
- Measuring stream corridor restoration
- Tracking

Additional Efforts

Increased ability to achieve regulatory compliance will be needed to strengthen this commitment. In addition, increased funding will be needed for additional compliance personnel and local assistance grants.

2.2.3 -

By 2002, each jurisdiction will work with local governments and communities that have watershed management plans to select pilot projects that promote stream corridor protection and restoration.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

Local governments, watershed forums and community watershed organizations (CWOs)have integrated this commitment into existing and new volunteer monitoring efforts, local water quality studies and educational projects. The Water Quality Improvement Funds (WQIFs) made available throught the Water Quality Improvement Act (WQIA) and the Chesapeake Bay Small Watershed Grants Program has given localities limited resources to implement a number of protection and restoration projects.

Virginia is working with the CBP and NFWF to select pilot projects for a study being conducted by the Green Mt. Institute for Environmental Democracy to learn whether or not restoration projects are more successful if implemented via a watershed management plan. This study is being done to ensure that projects selected have meaningful, quantifiable results.

The following projects have been selected for the study:

- Elizabeth River Project
- Appomattox Organizational Development Project-to create Friends of the

Appomattox
- Four Mile Run

State Role
State government participants include: CBLAD, DCR, DEQ, DGIF, DOF and VIMS.

Virginia is aggressively seeking out sound projects that promote watershed planning and stream corridor protection and restoration. Continued educational and training programs are needed to increase local awareness of volunteer opportunities and increase available funding. This is being accomplished through existing networks of watershed forums, localities and conservation watershed organizations.

Progress/Outlook
Localities, along with state agencies, continue to make strides in areas of stream corridor, wetlands and sensitive land area restoration and protection. Increased and better mitigation practices are being implemented, BMPs are being established in areas where none previously existed, and restoration projects are being implemented through cost share programs and WQIF. However, most of these are not being conducted under a Watershed Management Plan (WMP). Virginia is working with localities and other parties to identify pilot projects in areas covered by existing WMPs.

Additional Efforts
Extensive effort is needed to continue promoting the benefits of stream corridor protection and restoration to localities. Emphasis should be placed on concepts of increased quality of living and economic benefits associated with areas of greater environmental quality. Further, strong watershed planning tools are needed to assist local interest in this effort.

2.2.4 -
By 2003, include in the "State of the Bay Report," and make available to the public, local governments and others, information concerning the aquatic health of stream corridors based on adopted regional guidelines.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation
The implementation of this commitment is being fulfilled through water quality, SAV and benthic monitoring efforts by numerous local, state, and federal agencies along with citizen and environmental groups monitoring activities. In addition, universities, private consulting firms, state and federal agencies have conducted environmental studies of tributaries in the Chesapeake Bay Watershed. This information will be compiled for public dissemination.

State Role

All state government agencies and institutions with relevant information are participants in this process.

In the area of data gathering and analysis state agencies are working with localities and environmental organizations to develop consistent tracking criteria. Virginia will continue promoting environmental studies in all watersheds and work through the roundtables and other avenues to collect and assimilate the data. Additionally, Virginia agencies will work with our CBP partners to coordinate the distribution of the

CBP *State of the Bay Report* to the public, local governments and others.

Progress/Outlook

Watershed forums working with state agencies, localities and CWOs can assist in targeting stream corridors that have degraded waters by using the base-line data that has been collected. The roundtables can also assist in guiding the development of Implementation Plans required by the TMDL process.

Additional Efforts

Ensuring the long-term provision of information on the health of stream corridors will require additional resources over time. Involving local governments and others in the review and understanding of that information and the continuing evolution of that kind of information system and process will require effective communication, consultation and coordination at the watershed level.

2.2.5 -

By 2004, each jurisdiction, working with local governments, community groups and watershed organizations, will develop stream corridor restoration goals based on local watershed management planning.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

Watershed forums, incooperation with agencies, will be a primary vehicle to develop basin wide goals based on existing planning and monitoring data. These goals will then be integrated into the stream corridor restoration components of locally driven watershed management planning. The Virginia watershed planning protocol will serve as a guide for local interest in the commitment. These goals will be coordinated with Tributary Strategy implementation, TMDLs, CREP, WQIA, and other initiatives, to the extent feasible.

State Role

State government participants include: CBLAD, DCR, DEQ, DGIF and DOF.

Virginia agencies will assist in the development of stream corridor restoration goals by lending technical expertise on any task force working on this commitment. Further, it is the responsibility of the agencies to provide direction to watershed forums in the development of the basinwide goals.

Progress/Outlook

The Scientific and Technical Advisory Committee (STAC) sponsored a Stream Corridor Restoration Goals Workshop on May 7, 2003 in Baltimore, Maryland. The purpose of the workshop to introduce watershed management and stream corridor restoration to individuals whom may be responsible for implementing the goal. 27 individuals representing federal, state, and local agencies, non-profits and consultants attended the Virginia breakout session.

The workshop consisted of a morning session related to defining stream corridor restoration, watershed management plans and the issues related to each jurisdiction. The afternoon session consisted of case studies regarding watershed management and jurisdictional breakouts to discuss the overall goal. In addition, the breakout sessions addressed the following:

- Defining stream corridor and stream corridor restoration
- Identifying minimum criteria for stream corridor restoration
- Measuring stream corridor restoration
- Tracking

As a result of the workshop, it was recommended that the Department of Conservation and Recreation (DCR) establish a workgroup, including representatives from the STAC workshop, to address these issues. DCR would then present the workgroup recommendations at a series of informational/review meetings to obtain public comments and input on the proposed definitions and goal.

Recommendation: DCR should be directed to establish the workgroup. State agency participation should include CBLAD, DEQ, DGIF, and DOF. The establishment of the workgroup will enhance the Commonwealth's efforts in addressing and reaching this commitment.

Additional Efforts

The state will be considering ways to enhance mechanisms for communication, consultation and coordination on environmental and natural resource issues at the regional, river, and watershed level. (See discussion in Part One on regional communication, consultation, and coordination.) Additional resources will be needed to meet the demand for stream protection and restoration of riparian corridors. The federal/state Conservation Reserve Enhancement Program (CREP) will assist funding riparian buffers, wetland restoration and conervation easements on agricultural lands meeting eligibility requirement. Additional resources also will be needed for urban, suburban and other lands not qualifying for CREP.

2.3 - Wetlands

2.3.1 -

Achieve a no-net loss of existing wetlands acreage and function in the signatories' regulatory programs.

Department of Environmental Quality -

Year: **2003**

Approach to Implementation

1. Regulate activites in wetlands through permitting program. - avoidance and minimization of impacts. - compensation for unavoidable impacts.

2. Improve monitoring and enforcement activities. - no unpermitted impacts. - ensure success of compensation efforts.

3. Improve tracking of welands losses and gains through centralized database.

State Role

State government participants include: CBLAD, DEQ, MRC and VIMS.

DEQ has implemented a revised non-tidal wetland permitting program through its Virginia Water Protection Permit (VWPP) Program. The VWPP program along with the Commonwealth's existing tidal wetland program administered by MRC and Local Wetlands Boards with scientific and technical support from VIMS provide the regulatory mechanism through which a no-net loss of existing wetlands acreage and

function can be maintained.

In addition, the Chesapeake Bay Preservation Act's Regulations apply to the 84 localities of Tidewater, Virginia and require these localities to identify and protect sensitive lands, including tidal wetlands and certain nontidal wetlands as Resource Protection Areas (RPAs). Only water dependent uses and redevelopment are allowed in RPAs. The Regulations give these local governments additional authority to protect wetlands through preservation beyond applicable state and federal permits.

Progress/Outlook

Regulatory programs are working toward achieving no net loss of wetlands.

Tidal wetland program is ongoing. Currently reviewing Mitigation / Compensation policy to address formerly non-compensated losses associated with small impact shoreline stabilization projects.

The following are the 2002 statistics for acres of permitted tidal and nontidal wetland impacts within the Chesapeake Bay drainage, as well as acres of compensation provided for those impacts

Wetland Type	Impacts (acres)	Compensation (acres)	Net Gain (Loss)
Tidal Vegetated	6.0	1.0	(5)
Non-tidal Emergent	35.5	33.3	(2.2)
Non-tidal scrub/shrub	3.5	5.3	1.8
Non-tidal forested	35.4	56.2	20.8
Total Wetlands	80.4	95.8	15.4

We have made progress in both reducing the extent of impacts within the Chesapeake Bay drainage area and in providing compensation for those impacts. While there was a net loss of tidal wetlands within the Bay area, overall there was a net gain in wetland acreage. The Tidal Wetland program continues to implement its Mitigation/Compensation policy to address formerly non-compensated losses. The Non-Tidal Wetland program continues to increase the number of inspections on permit compliance, including success of compensation projects and reduction of non-permitted impacts.

Comprehensive state non-tidal wetlands program fully implemented on October 1, 2001.

- Most activities in wetlands regulated.
- Compensation required sufficient to achieve no net loss.
- Use of general permits provides time to focus on compliance / enforcement.
- Approval of State Programmatic General Permit will allow more control over permitting and compensation for small impacts.

Additional Efforts

DEQ is working with VIMS on a centralized database to track wetland acreage by watershed and wetland losses and gains through permitting programs and voluntary efforts. Part of this work is being supported by an EPA State Wetlands Assistance

Grant.

2.3.2 -

By 2010, achieve a net resource gain by restoring 25,000 acres of tidal and non-tidal wetlands. To do this, we commit to achieve and maintain an average restoration rate of 2,500 acres per year basin wide by 2005 and beyond. We will evaluate our success in 2005.

Department of Game and Inland Fisheries -

Year: **2003**

Approach to Implementation

1. Provide technical assistance to local, state and federal governments on wetland restoration techniques and cost-share as requested.

2. Continue building on existing partnerships and programs to achieve net resource gain.

3. Provide technical assistance as required for educational programs encouraging wetland restoration and protection.

State Role

The DGIF continues to have an active voluntary wetland restoration program. The program assists private landowners, state, local, and federal government landowners to restore wetlands on their property. Landowners receive assistance with site selection, cost-share programs, restoration design, and permit issues. The Department works with many partners to achieve this goal.

Progress/Outlook

Wetland restoration efforts in Virginia are continuing. Partnerships with organizations such as The US Fish and Wildlife Service's Partners for Fish and Wildlife Program, The US Department of Agriculture's farm bill programs, Ducks Unlimited, The Chesapeake Bay Foundation and many others have resulted in additional funding and successful grant applications for Chesapeake Bay Watershed wetland restorations.

Cooperation from other state agencies is responsible for additional wetland restoration projects in Virginia. The Virginia Department of Conservation and Recreation and The Virginia Department of Corrections are both assisting with restoration efforts.

Additional Efforts

Private non-profit and other government organizations also work independently in Virginia to restore wetland habitat.

2.3.3.1 -

Provide information and assistance to local governments and community groups for the development and implementation of wetlands preservation plans as a component of a locally based integrated watershed management plan.

System Administrator -

Year: **2003**

Approach to Implementation

See Text for 2.3.3.2

State Role

Progress/Outlook

Additional Efforts

2.3.3.2 -
Establish a goal of implementing the wetlands plan component in 25 percent of the land area of each state's Bay watershed by 2010. The plans would preserve key wetlands while addressing surrounding land use so as to preserve wetland functions.

System Administrator -

Year: **2003**

Approach to Implementation
Implement new voluntary programs, and build on existing programs and partnerships, to achieve net resource gain; provide technical assistance and education and outreach on cost-share programs encouraging wetland restoration and protection.

State Role
DGIF and its partners continues to have an active voluntary restoration program that assists private and public landowners to restore wetlands on their property. Landowners receive assistance with site selection, cost-share programs, restoration design, and permit issues. DCR supports efforts by landowners to restore wetland acreage through the Conservation Reserve Enhancement Program (CREP). Landowners can use the CP-23 Wetlands Restoration conservation practice available in CREP to restore wetlands in the Bay basin. Through an Executive Order (not yet signed), Governor Warner has directed DEQ to form the Virginia Wetlands Enhancement and Restoration Coordinating Committee, comprised of state and federal agencies, educational institutions, and non-profit organizations to promote and track voluntary wetlands creation and/or enhancement on public and private lands and assist with educating citizens of Virginia on potential restoration, creation, and preservation opportunities.

Progress/Outlook
DGIF and DCR, through its partnering with organizations such as the USFWS Partners for Wildlife Program, USDA Farm Bill Programs, Ducks Unlimited, the Chesapeake Bay Foundation, and others, have obtained funding and grants for wetland restoration projects within the Chesapeake Bay watershed. Landowners participating in CREP have restored 37.5 acres of wetlands as of June 30, 2003 in the Bay basin. DEQ held its first meeting of the Virginia Wetlands Enhancement and Restoration Coordinating Committee in September 2003; participants agreed to provide annual reporting of acres of wetlands restored via their projects so that we can track progress toward the goal of having an average restoration rate of 2,500 acres per year basin wide by 2005 and beyond.

Additional Efforts
DEQ has received an EPA State Wetland Assistance Grant to work with the Alliance for the Chesapeake Bay to establish the Virginia Citizen Wetland Education, Outreach, and Monitoring Program. This program will provide public education and outreach concerning wetland restoration in Virginia and wetland assessment monitoring of created, enhanced, and restored wetland areas. A series of workshops has been scheduled in 2003 and 2004 to provide the public with information on opportunities for restoration projects, including site selection and funding. A manual is being prepared to educate citizens in monitoring of wetland restoration projects to ensure their success.

Department of Game and Inland Fisheries -

Year: **2003**

Approach to Implementation

State Role

State government participants include: CBLAD, DCR, DEQ, DGIF, DOF and VIMS.

Wetland preservation may be defined as "the conservation of ecologically important wetlands in perpetuity through acquisition by purchase or donation, negotiated conservation easement, conservation tax incentive, or other mechanism, which precludes the conversion of a wetland to other uses." The surrounding land use and the subsequent management in and around the wetlands may significantly influence their function, and thus play a significant role in wetland preservation and management decisions.

Implementation of this wetland preservation strategy is supplemental to Virginia's existing regulatory programs and voluntary initiatives. Specifically, the strategy supports and integrates the Commwealth's no-net loss and net-gain goals, acknowledging that wetland preservation also involves careful management of both the wetlands and their surrounding landscape. In addition to state actions, such projects frequently will be undertaken voluntarily by landowners (private and public) through a variety of incentive programs.

Progress/Outlook

Additional Efforts

2.3.4 -

Evaluate the potential impact of climate change on the Chesapeake Bay watershed, particularly with respect to its wetlands, and consider potential management options.

2.4 - Forests

2.4.1 -

By 2002, ensure that measures are in place to meet our riparian forest buffer restoration goal of 2,010 miles by 2010. By 2003, establish a new goal to expand buffer mileage.

Department of Forestry -

Year: **2003**

Approach to Implementation

- Continuting effective cost-sharing program for landowners (CREP).
- Intensify cooperative, collaborative approach among federal and state agencies.
- Continue efforts to support increased funding for "working landscape" conservation easement purchases and donations.

State Role

State government participants include: CBLAD, DCR, DEQ, DGIF, DGS, DOC, DOF, VDACS and VDOT.

The Commonwealth of Virginia has a direct and significant role in the continuing establishment of riparian forest and other buffers. A Virginia Riparian Implementation Plan was developed in 1998 and contains specific tasks associated with buffer restoration and meeting the goal of the Adoption statement. Governor Gilmore signed Executive Order 48 (99) specifying certain riparian efforts including a 20% increase in the amount of riparian buffers on state-owned or managed land. The state, the soil and water conservation districts, and the federal Natural Resources Conservation Service (NRCS) are the major partners in this riparian restoration effort.

State agency participation revolves around a voluntary approach and the installation of soil and water practices. The incentive for practice installation is the federal and state cost-share programs administered by state agencies with field staffs able to conduct technology transfer to private landowners.

In addition, the Chesapeake Bay Act requires the designation of a 100-foot buffer along all tidal and perennial streams and wetlands. Use and development is severely restricted within the designated Resource Protection Area (RPA) where vegetation must remain intact. Forestry Best Management Practices (BMPs), including riparian corridor protection, are mandatory within the RPA.

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Progress/Outlook

- There exists a strong agency partnership in both riparian and conservation work. Need to make headway in urban arena - marketing efforts weak with development community. There is an opportunity to merge efforts with recent stromwater initiative. Need to strengthen Geographical Information System (GIS) efforts to target conservation efforts.

- Achieved 610-mile goal during spring 2002 - 8 years ahead of schedule mostly due to CREP. CREP has been renewed through 2007, and remains a critical component for continued success.

- As of June 30, 2003, 1,983.2 miles of riparian forest buffers have been implemented, 1,191.4 miles within the Chesapeake Bay Watershed and 791.8 within the Southern Rivers Watershed.

- Success may plateau without additional technology transfer and staff; easiest projects may have been completed with the more difficult landowners/tracts remaining.

- Strong upward trend in easement donations. Will need to continue to document the location and extent of riparian easements across the state.

- Federal conservation funding is risky and inconsistent; not enough to achieve goal.

- Need to assure a continued supply of nursery stock.

Additional Efforts

DOF continues efforts to quantify vegetation survival and water quality effects within

restored buffers.

2.4.2 -
Conserve existing forests along all streams and shorelines.

Department of Forestry -

Year: **2003**

Approach to Implementation

- Continuting effective cost-sharing program for landowners (CREP).
- Intensify cooperative, collaborative approach among federal and state agencies.
- Continue efforts to support increased funding for "working landscape" conservation easement purchases and donations.

State Role

State government participants include: CBLAD, DCR, DEQ, DGIF, DGS, DOC, DOF, VDACS and VDOT.

The Commonwealth of Virginia has a direct and significant role in the continuing establishment of riparian forest and other buffers. A Virginia Riparian Implementation Plan was developed in 1998 and contains specific tasks associated with buffer restoration and meeting the goal of the Adoption statement.

The Department of Forestry administers the Forest Legacy, a fee simple acquisition or conservation easement program. This voluntary program pays the landowner for "development rights" to the land. The Conservation Reserve Enhancement Program has a riparian easement portion administered by DCR.

Many state agencies participate in a statewide Riparian Working Group chaired by the State Forester. This group will coordinate riparian activities statewide and ensure agencies promote and implement riparian restoration and conservation. The Virginia Division of Natural Heritage is assembling location information for conservation easements including riparian easements.

In addition, the Chesapeake Bay Local Assistance Department administers the Chesapeake Bay Act requiring the designation of a 100 foot buffer along all tidal and perennial streams and wetlands. Use and development is severely restricted with the designated Resource Protection Area (RPA) where vegetation must remain intact. Forestry Best Management Practices (BMP's), including riparian corridor protection, are mandatory within the RPA.

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Progress/Outlook

One recent development, corresponding to and perhaps resulting from Virginia’s riparian buffer restoration efforts, has been increased collaboration on in-stream restoration efforts.

Additional Efforts

Continue efforts to increase conservation, including riparian areas. Enhance importance of Virginia Land Conservation Foundation efforts fo fund conservation.

2.4.3 -
Promote the expansion and connection of contiguous forests through conservation easements, greenways, purchase and other land conservation mechanisms.

Department of Forestry -

Year: **2003**

Approach to Implementation
The Chesapeake Bay Forestry Workgroup has embraced this concept and adopted a "Working Forests" approach which includes a hubs and corridors initiative.

State Role
State government participants include: DCR, DEQ, DGIF, DOF, VOF and VLCF.

The Commonwealth of Virginia has a significant and continuing role in the expansion and connectivity of forests for ecosystem stability including water quality, wildlife habitat, recreation, and aesthetic values.

The Virginia Land Conservation Foundation is a state entity that accepts easement proposals and reviews twice a year for possible funding. Agency staff reviews proposals and organizes Foundation meetings.

The Virginia Department of Natural Heritage is developing a statewide GIS mapping database for forest connectivity. The coastal plain portion is complete.

DOF administers the Forest Legacy Program. This is a U.S. Forest Service Program whereby they give a block grant to state to purchase forest conservation easements or fee simple purchase. As with the Land Conservation Foundation, this program pays the landowner for the "development rights" based on a federal appraisal.

The Virginia Outdoors Foundation has been in existence since 1966. Their primary function is to acquire open space easements of benefit to the citizens of the Commonwealth and must be consistent with local land use planning.

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Progress/Outlook
Virginia conservation efforts are increasing. Forest connectivity is critical to conservation success. State funding may improve in 2004.

Additional Efforts
The Department of Forestry is supplementing Heritage efforts with $15,000 for the GIS mapping database. The Virginia Natural Resources Leadership Institute is adopting this effort as their primary goal to support.

Water Quality

3.1 - Nutrients and Sediment

3.1.1 -
Continue efforts to achieve and maintain the 40 percent nutrient reduction goal agreed to in 1987, as well as the goals being adopted for the tributaries south of the Potomac River.

Department of Environmental Quality -

Year: **2003**

Approach to Implementation

In 1992, Virginia and the other Chesapeake Bay Program partners determined that the most effective means of reaching the 40 percent goal would be to develop tributary-specific nutrient reduction strategies in each river basin. Two major statutes that govern, guide, and provide a financing mechanism for the Commonwealth's partnership role in the tributary strategy initiative now appear in the Virginia Code. They are the Tributary Strategy Law (Article 2 of Chapter 5.1) enacted in 1996, and the Water Quality Improvement Act (WQIA) (Articles 1-4 of Chapter 21.1) passed by the 1997 General Assembly. The Shenandoah/Potomac Tributary Strategy was completed in December 1996, and the Secretary of Natural Resources approved strategies for Virginia's lower Bay tributaries (James, York, Rappahannock, and Eastern Shore) in August 2000. The tributary strategy process uses a cooperative, partnership approach with extensive public participation by the various stakeholders in the basins, including local governments, farmers, wastewater treatment plant owners, citizen conservation groups, business, industry, and scientific researchers.

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State Role

State government participants include: CBLAD, DCR, DEQ, VDH and VDOT.

The state government coordinates the development and implementation of the various tributary strategies and works closely with local governments and other affected and interested parties in each watershed.

Progress/Outlook

As projected in the 2000 Status Report, the control actions identified in the Tributary Strategy to achieve non-point source nutrient load reductions were fully implemented in the Shenandoah-Potomac basin by the end of December 2000. Progress continues on the point source retrofits to install nutrient control systems, and three projects were finished in 2000 (HRRSA-North River STP, FWSA-Opequon STP, and SIL Clean Water), with the balance of projects in Northern Virginia scheduled for completion in Spring 2002.

A draft interim nutrient cap strategy for the Shenandoah and Potomac River basins was completed in 2001. Population growth and land use changes in the Shenandoah and Potomac River Basins will create challenges for maintaining the target nutrient load. It is estimated that continued strategy implementation will achieve the 40% goal in the next year or two, but that other increases in nutrient loads from population growth will undercut goal achievement in a short period of time if additional efforts are not undertaken.

Stakeholders across all river basins continue to support the incentive-based approach of the tributary strategies, and believe that funding of the Water Quality Improvement Fund (WQIF) is critical for attaining water quality goals. Revised tributary strategies are scheduled to be complete by April 2004 in response to new nutrient and sediment load allocations for the major Bay basins. Details on the need for strategy revisions are presented in Section 3.1.2, which follows.

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Additional Efforts
Continued funding for the WQIF point source program is needed to involve all significant, publicly owned facilities in the Shenandoah/Potomac river basins (several still remain without grant agreements), as well as for targeted facilities in lower Bay tributary basins. Expenditures for nonpoint source programs will also need to be expanded to hold the line on the 40% goal and to begin full implementation of the lower Bay tributary strategies. Maintaining reduced loads may be greatly aided through the use of "trading" or other market based incentives.

3.1.2 -
By 2010, correct the nutrient- and sediment-related problems in the Chesapeake Bay and its tidal tributaries sufficiently to remove the Bay and the tidal portions of its tributaries from the list of impaired waters under the Clean Water Act. In order to achieve this:

Department of Environmental Quality -

Year: **2003**

Approach to Implementation
The Chesapeake 2000 agreement has significantly shifted our goals and process for achieving water quality restoration in Chesapeake Bay and its tributaries. Instead of concentrating almost exclusively on nutrient load reductions, the Bay Program participants are now focusing attention on the water quality conditions needed to sustain living resources and protect important habitat areas. Once these environmental "criteria" are decided, then appropriate water quality standards will be adopted by the jurisdictions, and the annual nutrient and sediment loads that achieve these levels will be allocated among the major Bay tributaries. A set of important tools that will assist in determining the load allocations for the major Bay tributaries are the linked Watershed and Water Quality Models developed by the Chesapeake Bay Program. Nutrient and sediment reduction scenarios can be simulated using these models, and the resulting water quality responses can be compared to the selected living resource and habitat criteria. The Commonwealth is an active participant in the Chesapeake Bay Criteria Development process, and will stay involved in this activity through adoption of new or revised water quality standards. These activities are covered in Sections 3.1.2.1-5, which follow.

The process for achieving this commitment is underway among Chesapeake Bay Program participants. Virginia will strive for meaningful public involvement in the decision-making for this commitment. The Commonwealth will maintain its voluntary, cooperative programs that are currently being utilized for both point and nonpoint source nutrient and sediment control. Pollutant loading reductions will be achieved through continued application of programs such as the implementation of Best Management Practices, the Conservation Reserve Enhancement Program, and WQIF point source retrofit projects.

State Role
State government participants include: CBLAD, DCR, DEQ, DOH, VDOT.

The Commonwealth has significant interests and support responsibilities for this commitment.

Progress/Outlook
The revised goals to be established for this commitment may be very challenging, but will not be known until criteria development and the standards adoption process have both been completed. It is likely that nutrient and sediment reductions required to attain any new or revised water quality standards will require revisions to the existing tributary strategies. In the interim, the state maintains an active role in the Chesapeake Bay Program dedicated to criteria development and new standards adoption. Virginia should maintain the current level of initiatives supporting tributary strategy implementation so that costs to achieve these goals are not borne solely within a 2-4 year period.

Additional Efforts
The total resources needed to meet this commitment have yet to be quantified, but costs could be significant if based on cost-projections associated with model reduction scenarios. A supplement to the Chesapeake 2000 agreement, in the form of a Memorandum of Understanding, will involve the non-signatory states of NY, WV, and DE to aid in achieving this commitment. The Tributary Strategy process must be successfully integrated with the federally mandated TMDL Program. Development of nutrient criteria for the freshwater, free-flowing sections of the tributaries (above the fall line) must be tracked to assess their impact on those areas and the Bay's tidal waters. Increased funding for enhanced Chesapeake Bay monitoring programs may be necessary to evaluate criteria developed under 3.1.2.1, as well to measure ultimate success under this commitment, which is compliance with water quality standards in the future.

3.1.2.1 -
1. By 2001, define the water quality conditions necessary to protect aquatic living resources and then assign load reductions for nitrogen and phosphorus to each major tributary;

Department of Environmental Quality -

Year: **2003**

Approach to Implementation
The Chesapeake Bay Program's Implementation Committee established the Water Quality Technical Workgroup (WQTW) to oversee this commitment. The WQTW's task has been to coordinate the technical and scientific activities for the process of integrating the cooperative and statutory programs of the Chesapeake Bay restoration effort. This includes development of quantitative water quality criteria and refined designated uses. The combination of these two elements forms the basis for revised water quality standards, and will define the appropriate water quality conditions, and the locations where they apply, for important living resources and habitat throughout the Bay and its tributaries.
- - - - -
State Role
State government participants include: DCR, DEQ, ODU and VIMS.

This commitment has high priority for which the Commonwealth has significant interests and support activities.

Progress/Outlook

The first phase of this commitment was accomplished by the parameter-specific task groups (dissolved oxygen, water clarity, chlorophyll) under the direction of the WQTW. They defined the water quality conditions necessary to protect aquatic living resources, then made suggestions for refined designated uses and drafted quantitative criteria. The draft criteria, designated uses, and scientific basis for this effort have been presented to Virginia stakeholders in a series of public information briefings held during July and August 2000. The process to finalize the criteria will include opportunities for input and involvement by stakeholders through the fall of this year, and again during spring/summer 2002 after EPA publishes them for public review in the Federal Register.

It has already been recognized that the second phase of this commitment, assigning load reductions by each major tributary, has been delayed due to technical difficulties. Final calibration of the computerized Water Quality Model for the upper Bay was not completed as scheduled, and as a result the allocation of nitrogen and phosphorus load reductions to each major tributary has been rescheduled for September 2002 (rather than December 2001).

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Additional Efforts

Agency staff will continue to provide public education and outreach, to aid in understanding the water quality criteria and designated uses that will drive the goal-setting process for nutrient reduction.

3.1.2.2 -

2. Using a process parallel to that established for nutrients, determine the sediment load reductions necessary to achieve the water quality conditions that protect aquatic living resources, and assign load reductions for sediment to each major tributary by 2001;

3.1.2.3 -

3. By 2002, complete a public process to develop and begin implementation of revised Tributary Strategies to achieve and maintain the assigned loading goals;

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

- Virginia began the process to revise Tributary Strategies in April.
- State tributary teams were re-established for eight basins/sub-basins to interact and coordinate with local governments, affected and interested stakeholders, Watershed Roundtables, Councils, Forums, and River Basin Commissions to acheve local/public selection of strategy actions.

State Role

State government participants include: CBLAD, DCR, DEQ, DOF, DOH, VDOT, and VIMS.

This part of the impaired waters delisting effort is state responsibility with, of course, the involvement of many affected and interested parties.

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Progress/Outlook

- Revised tributary startegies(per C2K) to be compete by April 2004, one year after load allocations provided.

- Concerns at the State level about available staff/resource levels to effectively work on all tributary strategies simultaneously, and to have substantial stakeholder involvement,modeling runs,and public comment prior to the deadline to submit the revised tributary strategies.

- Likley public perception of Tributary Strategy revision process: while State seeks increased effort, current actions are lagging due to insufficient financial and technical resources.

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Additional Efforts

State contracted with Northern Virginia Regional Commission to develop a Virginia version of Scenario Builder to aid with development of BMP implementation numbers for the tributary strategies.

3.1.2.4 -

4. By 2003, the jurisdictions with tidal waters will use their best efforts to adopt new or revised water quality standards consistent with the defined water quality conditions. Once adopted by the jurisdictions, the Environmental Protection Agency will work expeditiously to review the new or revised standards, which will then be used as the basis for removing the Bay and its tidal rivers from the list of impaired waters; and

Department of Environmental Quality -

Year: **2003**

Approach to Implementation

The schedule for completing the revised tributary strategies (only a year after the allocation of nutrient and sediment loading goals among the major Bay basins), is a very ambitious timeline. The original strategies, for some river basins, were nearly three years in the making. The State agencies involved must dedicate sufficient staff time and other resources to this task, in order to meet the deadline.

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State Role

This commitment has high priority for the Commonwealth with significant support provided by DEQ.

Progress/Outlook

DEQ staff have participated in EPA Chesapeake Bay Program efforts to develop Bay-specific water quality criteria and refined designated uses. A series of public briefings on the work accomplished thus far were held during summer 2001 to prepare stakeholders and the general public for the standards adoption process. In a related action, the State Water Control Board (SWCB) recently approved revisions to the Dissolved Oxygen Standard and the amendments have been submitted to EPA Region III for review and approval. This action should enable DEQ's Water Quality

Assessment staff to better address naturally occurring dissolved oxygen violations in the Clean Water Act 305(b) reports and 303(d) listings.
- - - - - Virginia has initiated the process of adopting revised water quality standards with the publication of a Notice of Intended Regulatory Action on November 17, 2003. For additional information, please contact DEQ.

Additional Efforts
Significant staff time must be devoted to this effort, in order to expeditiously convene public hearings, receive and respond to comments, and perform other administrative requirements of the APA. It will be necessary for the state to write implementation guidance so that the concentrations of dissolved oxygen that are naturally occurring can be determined in stratified estuaries and lakes and in minimal flow velocity waters (swamps).
- - - - -

3.1.2.5 -
5. By 2003, work with the Susquehanna River Basin Commission and others to adopt and begin implementing strategies that prevent the loss of the sediment retention capabilities of the lower Susquehanna River dams.

System Administrator -

Year: **2003**

Approach to Implementation
The Chesapeake Bay Program is leading implementation of this commitment.

State Role
N/A

Progress/Outlook
N/A

Additional Efforts
N/A

3.2 - Chemical Contaminants

3.2.1 -
We commit to fulfilling the 1994 goal of a Chesapeake Bay free of toxics by reducing or eliminating the input of chemical contaminants from all controllable sources to levels that result in no toxic or bioaccumulative impact on the living resources that inhabit the Bay or on human health.

Department of Environmental Quality -

Year: **2003**

Approach to Implementation
Goals and commitments within the Toxics 2000 Strategy were designed to target chemical contaminants through management actions with a geographic focus.

State Role
DEQ staff provide representation on the Chesapeake Bay Program's Toxics Subcommittee and various workgroups. Approaches have been developed to address strategy commitments, within both the federal-interstate Bay Program and signatory jurisdictions.

Progress/Outlook

In the past year, progress has been minimal due to loss of support personnel within the

Federal Chesapeake Bay Program. However, progress has been made on the continued development of the work-plan for the impending Chesapeake Bay Toxics Characterization. Implementation of this commitment shall continue upon the reinstatement of Chesapeake Bay Program support staff, which provide assistance to the CBP Toxics Subcommittee and its various workgroups.

Additional Efforts

DEQ staff have worked in the interim to compile disparate DEQ chemical contaminant data sets into a uniform database format specified by the Chesapeake Bay Program. These data shall be used within future Toxics Characterization efforts.

3.2.2 -

By Fall of 2000, reevaluate and revise, as necessary, the "Chesapeake Bay Basinwide Toxics Reduction and Prevention Strategy" focusing on:

Department of Environmental Quality -

Year: **2003**

Approach to Implementation

Commitment was attained in December 2000 through the Executive Council's adoption of the "Toxics 2000 Strategy".

State Role

State government participants include: CBLAD, DCR, DEQ, DGIF, VDACS, VDH, and VIMS.

Provide appropriate representation and support to the CBP Toxics Subcommittee and the applicable workgroups for implementation of the "Toxics 2000 Strategy".

Progress/Outlook

Additional Efforts

3.2.2.1 -

Complementing state and federal regulatory programs to go beyond traditional point source controls, including nonpoint sources such as groundwater discharge and atmospheric deposition, by using a watershed-based approach; and

3.2.2.2 -

Understanding the effects and impacts of chemical contaminants to increase the effectiveness of management actions.

3.2.3 -

Through continual improvement of pollution prevention measures and other voluntary means, strive for zero release of chemical contaminants from point sources, including air sources. Particular emphasis shall be placed on achieving, by 2010, elimination of mixing zones for persistient or bioaccumulative toxics.

Department of Environmental Quality -

Year: **2003**

Approach to Implementation

A *Voluntary Mixing Zone Phase-Out Strategy* was developed (August 2001) to target point sources. Applies only to "persistent and bioaccumulative toxics" (PBTs) in "Regions of Concern" and "Areas of Emphasis".

Virginia promotes active participation in Businesses for the Bay (B4B), a voluntary

team of forward-looking businesses, industries, government facilities and other organizations within the Chesapeake Bay watershed. B4B members are committed to implementing pollution prevention in their daily operations and reducing releases of chemical contaminants and other wastes to the Chesapeake Bay.

State Role

State government participants include: DCR, DEQ, DGIF, VDACS, VDH, and VIMS.

Provide appropriate representation and support to the Toxics Subcommittee and the applicable workgroups.

Provide assistance in the development, refinement and implementation of the *Voluntary Mixing Zone Phase-Out Strategy*, and provide a list of applicable facilities where pollution prevention efforts can be targeted. With assistance from DEQ Pollution Prevention staff, facilities can find opportunities to reduce or eliminate mixing zones.

Progress/Outlook

Lack of staff support from the Federal Chesapeake Bay Program has slowed this effort. In addition, without incentives provided to facilities for voluntarily reducing chemical contaminants, progress has been slow.

As a component of the effort to achieve zero release of chemical contaminants, DEQ's Office of Pollution Prevention continues to promote and support Businesses for the Bay (B4B). More than half of the program's 500+ participants are located in Virginia. For 2002, the CBP Executive Council awarded 8 of 14 B4B Excellence Awards to Virginia facilities. In 2002, Virginia participants reported over 111 million pounds of hazardous materials reduced voluntarily through pollution prevention techniques. At the same time, these facilities actually saved more than $27 million due to these changes.

Additional Efforts

None.

3.2.4 -

Reduce the potential risk of pesticides to the Bay by targeting education, outreach and implementation of Integrated Pest Management and specific Best Management Practices on those lands that have higher potential for contributing pesticide loads to the Bay.

System Administrator -

Year: **2003**

Approach to Implementation

The 2003 project, “Integrated Pest Management Demonstration Project for Corn, Soybeans, and Small Grain in the Coastal Plain of Virginia,” took five little used or misunderstood IPM practices that had potential for increased use and demonstrated them at farmer field days. The practices were selected based on needs identified in our 2002 IPM survey of farmers in the coastal plains region of Virginia. The 2003 project served to better educate farmers on currently available IPM practices in Virginia (including scouting, identifying, sampling, and managing pests) and increased public awareness of IPM practices. The five practices demonstrated were:

1. How to determine if soybeans require insecticide treatments for defoliating

insects
2. How to sample and manage cyst nematodes in soybean
3. Insect pest identification and scouting education
4. Use of IPM Internet resources and technology
5. Sampling and control options for soil insect pests of corn

State Role

This project involved cooperation between the Department of Conservation and Recreation (DCR), Virginia Tech, and Virginia Cooperative Extension Agriculture and Natural Resource (VCE ANR) Agents. DCR and Virginia Tech investigators administered the project.

Progress/Outlook

Our 2002 surveys and focus groups gave local farmers an opportunity to communicate their needs and concerns to VCE and Virginia Tech researchers. The 2003 IPM demonstration projects allowed VCE and Virginia Tech researchers to respond to some of these needs, providing better explanations and/or clarification on currently available IPM practices. Updates on IPM practices were also shared. Both large and small groups of farmers were reached at these events--the Virginia Ag Expo had 650 attendees; the annual field days at the Virginia Tech Eastern Virginia and the Tidewater Agricultural Research and Extension Centers had 96 and 289 attendees, respectively; and three VCE ANR Agent area field days each had approximately 40 attendees. The education and exposure that these IPM demonstrations provided should increase farmer adoption of IPM practices in the coastal plains region of Virginia.

Additional Efforts

Project personnel will strive to keep farmers aware of and using IPM practices. In the future, some Virginia Tech and/or VCE locations may be equipped with digital imaging equipment to aid communication between farmers, Agents, and Specialists. This would be useful in rapidly identifying insects/weeds/diseases and would facilitate management of pests, using current IPM information from the Specialists, as problems arise.

Acres covered by BMPs

3.3 - Priority Urban Waters

3.3.1 -

Support the restoration of the Anacostia River, Baltimore Harbor, and Elizabeth River and their watersheds as models for urban river restoration in the Bay basin.

Department of Environmental Quality -

Year: **2003**

Approach to Implementation

Through continued implementation of the *Revised Elizabeth River Watershed Action Plan*, which promotes the "Clean 14". The focus areas include sediment remediation, stormwater runoff control, wetland restoration, pollution prevention, and monitoring.

State Role

Direct monitoring activities, which includes contractual and budgetary oversight. The state works as a partner with the Elizabeth River Project on the implementation of the Regional Watershed Action Plan. DEQ also serves on a Steering Committee for an Army Corps of Engineers sediment/wetland remediation project.

Progress/Outlook

The Army Corps sediment remediation project at Scuffletown Creek is in the design phase, although there have been some agreement/funding-related delays. A Feasibility Study is in the initial planning stages at 3 additional Elizabeth River sites including Paradise Creek. Water quality and other types of monitoring shall continue as allowed by budgetary constraints and in-kind services provided by Elizabeth River Project partners.

Additional Efforts

The Elizabeth River Sediment Remediation Partnership (ERPSRP) Committee has been established for the purpose of developing and overseeing the implementation of a river-wide Sediment Remediation Plan. The partners include Federal (EPA, NOAA, Fish and Wildlife, Army Corps of Engineers), State, military (Navy), industry, academic, municipal, and citizen representatives.

3.3.2 -

By 2010, the District of Columbia, working with its watershed partners, will reduce pollution loads to the Anacostia River in order to eliminate public health concerns and achieve the living resource, water quality and habitat goals of this and past Agreements.

System Administrator -

Year: **2003**

3.4 - Air Pollution

3.4.1 -

By 2003, assess the effects of airborne nitrogen compounds and chemical contaminants on the Bay ecosystem and help establish reduction goals for these contaminants.

Department of Environmental Quality -

Year: **2003**

Approach to Implementation

Virginia requires companies to monitor nitrogen oxide (NOx) emissions from individual power plants and some major industries. This monitoring requirement will be expanded when new control requirements become effective in 2004. NOx emissions from motor vehicles, another large source of emissions, are calculated based on such factors as vehicle model years, vehicle speed, and miles traveled. Inventories of air pollutant emissions are updated periodically and tracked to determine the pollution trends over time.

The state does not routinely assess the effects of airborne emissions on the Bay ecosystem. This type of assessment has generally been conducted by federal agencies, principally the EPA and programs funded by the Chesapeake Bay Program. Addressing the impacts of air pollutants from statewide sources to local waters would require an expansion of existing efforts.

Virginia continues to implement the federal Hazardous Air Pollutant program. To date, EPA has promulgated 41 standards for hazardous airborne pollutants, proposed 13, and plans to propose an additional 33 within the year. Virginia has one or more sources affected by 30 of the 41 standards, 6 facilities are subject to the proposed standards, and anticipates 26 sources will be covered by the standards still to be proposed. Overall, this program will reduce emissions of 188 Hazardous Air

Pollutants. In addition to the ozone season NOx emission control strategy, the state administers various control programs on new utility and industrial facilities such as New Source Performance Standards (NSPS) and Best Available Control Technology (BACT). These are implemented through the new source permitting process that requires continuous control of NOx emissions throughout the year.

The major difficulty in controlling the impact of pollutants that are deposited from the air is that the Bay drainage area receives input from an "emitter zone" that is about 5 times larger than the Bay watershed. This is far beyond the control of the Bay Agreement signatories, who must rely instead on legislation and regulations administered by EPA on a national scale.

State Role

State government participants include: DEQ.

The state monitors emissions from some sources and estimates emissions from others. The state also develops appropriate regulations and policies as necessary to control and reduce emissions of both NOx and chemical compounds.

Progress/Outlook

DEQ's air quality control program focuses on implementing the regulatory requirements of the Clean Air Act. This primarily involves permitting of stationary sources to ensure compliance with air quality standards that are directed at protecting human health. As a result, activities to "assess the effects of airborne nitrogen compounds and chemical contaminants in the Bay" are very limited.

One regulatory action that does have implications for the Bay is referred to as the "NOx SIP Call". EPA required 22 States and the District of Columbia to submit State Implementation Plans ("SIP") that address the regional transport of ground-level ozone. By improving air quality and reducing emissions of nitrogen oxides (a precursor to ozone formation known as NOx), the actions directed by these plans will decrease the transport of ozone across State boundaries in the eastern half of the United States. One problem with the NOx SIP Call is that most companies are meeting the limits by installing controls which decrease the total amount of nitrogen emitted (converting NOx into nitrogen gas and water), but the remaining nitrogen released is in the form of ammonia. This may be a good air quality trade off, but might not be a long term advantage to the Bay and must be further evaluated.

Virginia is in the process of adopting regulations to substantially reduce NOx emissions from power plants and large industrial sources. Each source is to demonstrate compliance with these new requirements by May 31, 2004. It is estimated that the total emission reductions from the affected sources will be on the order of 26,000 tons each year during the ozone season (May 1st through September). These reductions will occur from an ozone season baseline of 47,000 tons. The permanent statewide NOx emission cap for all subject sources will be on the order of 21,000 tons per ozone season.

The state will continue to adopt the additional regulations for sources subject to the Hazardous Air Pollutant standards as EPA finalizes such standards. All covered sources are required to be in compliance with these standards and regulations by May 15, 2007. At this time, data are not available to quantify the amount of chemical reductions expected from this program between now and 2007.

Additional Efforts
In addition to efforts to control NOx deposition, the Bay Program participants are beginning to investigate the magnitude of airborne ammonia emissions, especially from combined animal feeding operations, and their potential influence on water quality conditions.

It remains to be seen what, if any, revisions to the Clean Air Act or other national requirements Congress or EPA will make that could aid in the Bay's restoration. A proposal was under consideration, referred to as the "Clear Skies Initiative", that would have addressed NOx, SO2 and mercury, but this has been dropped by Congress and it's future is uncertain.

3.5 - Boat Discharge

3.5.1 -
By 2003, establish appropriate areas within the Chesapeake Bay and its tributaries as “no discharge zones” for human waste from boats. By 2010, expand by 50 percent the number and availability of waste pump-out facilities.

Department of Environmental Quality -

Year: **2003**

Approach to Implementation
The approach being taken is to use Federal Clean Vessel Act (CVA) funding to increase the number of pump-out facilities and work with the Clean Vessel Act Coordination Committee to include stakeholder support. While EPA, in coordination with DEQ, establishes “no discharge zones,” input from other agencies and institutions will be used to guide this process. Additional action is being implemented through Pollution Prevention Programs and the Virginia Clean Marina Program. While this remains a challenging directive, the Commonwealth continues to build stakeholder support to provide guidance.

- Use the Clean Vessel Act funding to increase the number of pump-out facilities and work through the Clean Vessel Act Coordination Committee to establish “no discharge zones”.

- Provide grant funding for marinas to participate in the pump out program to assist them with maintenance on pumpout equipment after it is installed. This may be accomplished through the reauthorization of the CVA.

State Role
State government participants include: DCR, DEQ, DGIF and VDH.

State agencies provide grant funds and technical assistance to support the expansion of the pump-out facilities and regulate such facilities.

Progress/Outlook
Continue to provide pump-out facilities and work with the Clean Vessel Act Coordination Committee. Although Virginia will likely reach the goal to increase pump-out availability well before 2010, expanding the number and availability of facilities by 50% may be inadequate to prevent further pollution. The program does not account for pump-outs improperly operated or where local wastewater treatment systems are unable to handle additional wastes created by the expanded pump-outs.

Additional Efforts
Additional resources may be needed to more effectively manage the growth and operation of pump-out facilities. Improved coordination among agencies that monitor and regulate pump-outs and those which implement solid waste programs will also be addressed.

In 2003, the CVA program (installing pump-outs and dump stations) experienced a setback due to Hurricane Isabel. VDH received numerous requests to replace systems that were lost due to damage. The use of available funds was concentrated by VDH in the effort to replace the damaged systems or refurbish equipment, somewhat delaying the expansion of the pump-out program to new sites. One benefit of this approach is that the new equipment is modern, durable, and easier to use.

3.5.2 -
By 2006, reassess our progress in reducing the impact of boat waste on the Bay and its tributaries. This assessment will include evaluating the benefits of further expanding no discharge zones, as well as increasing the number of pump-out facilities.

Sound Land Use

4.1 - Land Conservation

4.1.1 -
By 2001, complete an assessment of the Bay's resource lands including forests and farms, emphasizing their role in the protection of water quality and critical habitats, as well as cultural and economic viability.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation
The CBP has developed a Resource Lands Assessment Task Force (RLATF) and an associated Technical Team to address this commitment. The groups have been charged with "developing an assessment that addresses the status, trends, and condition of resource lands (forest, agriculture, wetlands) and that analyzes information to identify issues, risks, and opportunities related to the roles identified in the Agreement commitment". This assessment will integrate existing data sets, utilize information from special studies, and engage analysis to determine areas that are vulnerable, at risk, and important because of environmental or economic value. Although the commitment was originally slated for completion in December of 2001, due to the complexity of the issue, efforts are still continuing.

The Technical Team developed a two fold operating strategy that included:

1. Using the existing products/approaches, simultaneously to conduct an assessment of the three main themes of the Resource Lands Assessment (RLA) - environment, economics, and cultural.

2. Then tying the themes together using the environmental analysis as the "base" to which the other two themes would be added, and possibly developing a weighting scheme to incorporate watershed or county-based information. For the long-term, the Bay Program would update and enhance the assessment as

identified gaps in data were filled, both at the Bay-wide and state level.

The Resource Lands Assessment Technical Team has been moving forward with implementing this strategy for the RLATF. The principal environmental assessment tool is now completed – a GIS identification of natural land "hubs" and best-fit "corridors" that can connect them, prioritized according to ecological value and displayed with a variety of vulnerability coverages. Substantial progress has also been made on GIS products assessing water quality and watershed integrity. More problematic have been the assessments of economically (especially agriculture) and culturally significant lands as data limitations are considerable. The biggest problem is determining how to integrate the various analyses in a coherent analysis. The Technical Team is working toward packaging the various analyses in a format that will allow derivation of answers to a variety of questions for near-term utility while continuing to grapple with the challenges of identifying or developing key new datasets and determining the best means to integrate the data and analyses.

State Role

State government participants include: CBLAD, DCR, DOF, DGIF, DHR, VMRC, VDACS, VIMS and VDOT.

Virginia has staff serving on the RLATF and its Technical Team. As the product evolves and as a determination is made as to the additional critical data layers that will be needed, we are considering development of a multi-agency Task Force that will cooperatively assist with assembling/updating various Virginia data-sets on resource lands.

DCR, with funding assistance from DEQ's Coastal Program, has made considerable progress on development of a Conservation Lands Assessment (CLA), based on the product developed by the RLA Technical Team but incorporating additional and more current data sets. A pilot CLA will be available this winter for Virginia's Coastal Zone, and an updated Assessment including most of Virginia's Bay watershed will be completed next winter.

Additionally, DCR's Protected and Managed Lands database continues to grow, especially with incorporation of new parcels from localities and land trusts. It has been extensively used by state and federal agencies, and this fall is being made available to the public as a GIS-capable public website. This has also served as an important component of the RLA.

Progress/Outlook

In the coming year, DCR and DEQ will be actively working with localities and other state agencies, including the Virginia Land Conservation Foundation, DOF, and VDACS, to implement specific protection activities based on the CLA, as well as to develop new datasets addressing economic and cultural land protection needs to integrate into a more comprehensive Conservation Lands Needs Assessment. The intent is to build consensus around this Assessment as a key tool that can help guide the wise expenditure of land conservation funding within Virginia.

Additional Efforts

Virginia will continue to participate in both the CBP's RLATF and the associated Technical Team and will monitor the necessity to develop a Virginia multi-agency Task Force to address specific data needs. Virginia will also participate on the Land

Conservation and Forestry Workgroups that may also be working on aspects of this commitment.

4.1.2 -
By 2001, complete an assessment of the Bay's resource lands including forests and farms, emphasizing their role in the protection of water quality and critical habitats, as well as cultural and economic viability.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation
In Virginia, public bodies and private land conservation organizations throughout the Bay Watershed continue to work together to develop and enhance programs related to the purchase of easements and the purchase of development rights (PDR). The Commonwealth is studying funding mechanisms to help advance these programs.

State Role

State government participants include: CBLAD, DCR, DGIF, DOF, TAX, VDACS and VOF.

There are a number of existing and well-received easement programs among both State agencies and private sector organizations in Virginia. A synthesis of these programs was presented in 2000 in a VOF/DHR/DCR report entitled "Conservation and Historic Easements in Virginia". This portfolio of federal, state, local, and non-profit funding programs and techniques identifies programs that may help address this commitment. The Department of Conservation and Recreation has also established a land conservation website where the public can find detailed information on land conservation programs and who they can contact in the public and private sector for assistance. The site is also scheduled to provide a web-based mapping system of protected and managed conservation lands for the public and other preservation targeting tools are being developed. Additionally, in 2003, a land conservation workgroup chaired by the Director of DCR cooperatively developed a brochure entitled "Assistance from Virginia State Agencies for Land Conservation" to provide the public with an explanation on how different state programs can assist them to meet their land conservation needs. The State also continues to partner with the Virginia United Land Trust (VaULT), a private organization whose membership includes many of the Commonwealth's land trusts, to promote land conservation programs. VaULT is currently drafting a plan to identify regional easement and out-right acquisition priorities for land conservation from willing sellers.

In terms of purchase of development rights (PDR) efforts, the Virginia Land Conservation Foundation has established grant funding criteria for PDR programs and VDACS's Farmland Preservation Taskforce has been discussing tools to help localities establish farmland PDR programs. Localities such as Virginia Beach, Albemarle, Clarke, Fauquier, James City, and Loudoun, have already developed Purchase of Development Rights Programs. Easement programs are also growing, with easements being taken at record rates by the Virginia Outdoors Foundation, and by localities, land conservation trusts, and state conservation agencies.

This commitment also speaks to the development of new revenue sources to expand the use of voluntary and market based mechanisms to preserve land. Virginia recognizes that continued philanthropic giving of easements to organizations like the

Virginia Outdoor Foundation and the further refinement of tax incentives that fuel these donations by private citizens and Foundations are leading mechanisms to address this commitment. However, in an effort to provide additional fiscal assistance to localities, land trust, and state agencies for land conservation efforts, Governor Warner has also established a Natural Resources Funding Commission to make recommendations regarding potential funding mechanisms for land conservation and other natural resources needs for his consideration.

Progress/Outlook

The Commonwealth is doing a good job on providing the tools and incentives to the general public and the land trust community to make significant land conservation progress. However, it is recognized that a permanent state-funding source for land conservation purposes would help to further advance Virginia's land conservation efforts.

Additional Efforts

Virginia, working with its Congressional leaders and other Chesapeake Bay Program partners, needs to continue to seek increased federal funding to supplement state land conservation programs.

4.1.3 -

Strengthen programs for land acquisition and preservation within each state that are supported by funding and target the most valued lands for protection. Permanently preserve from development 20 percent of the land area in the watershed by 2010.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

The primary element of this commitment speaks to preserving 20% of the land area in the watershed. In an effort to determine what portion of the watershed was already preserved, Bay jurisdictions and partners developed a working definition of "preserved lands" and developed a baseline listing and acreage total of properties that met the definition as of June 30, 2000. In February of 2001 the Chesapeake Bay Commission and the Trust for Public Land, building on the Bay Program's efforts, released a report entitled "Keeping Our Commitment; Preserving Land in the Chesapeake Bay Watershed". Based on the jurisdiction's preliminary June 30, 2000 baseline calculations, the CBC's report estimated that to reach the 20% goal, an additional 1.1 million acres needed to be preserved by 2010. Of this 1.1 million acres, it was estimated that 28.5% could be protected through private donation and nonprofit activity, leaving around 786,000 acres to be protected through public funding efforts. Using an average cost per acre, they estimated that $1.8 billion in public funds over 10 years would be required to protect the 786,000 acres. Since determining this need for funding, the CBC has been pursuing increased funding for these activities from federal sources in various pieces of federal legislation.

To calculate the progress toward achieving the goal, the June 30, 2000 baseline numbers have been refined and adopted by the CBP and jurisdictions are completing their third annual land conservation progress report. These reports include refinement to the baseline and a listing of properties and their acreage preserved between July 1 and the following June 30. The Land Conservation Workgroup under the LGSS has developed an overall work plan for: monitoring progress on these commitments;

implementing tasks and projects, and; creating and implementing specific strategies for particular commitments as needed.

State Role

State government participants include: CBLAD, DCR, DGIF, DHR, DOF, VLCF, VDACS, VIMS and VOF.

The first role of the state is to monitor Virginia's progress towards this Bay-wide commitment. DCR utilizes its "Protected Natural, Historic, and Cultural Lands Layers" GIS database to track and quantify lands preserved within the Commonwealth, in partnership with State and federal agencies and Virginia's land trusts and localities that contribute regular updates to the database. The second role of the state relates to strengthening land conservation programs. With the existence of the Virginia Land Conservation Foundation (VLCF), the Virginia Outdoor Foundation (VOF), the Forest Legacy program, the Federal Land and Water Conservation Fund program, and a host of other federal, state, local, and private preservation programs, Virginia already has the infrastructure developed to protect the Commonwealth's lands.

Another key role of the state in this commitment relates to targeting its programs towards the most valued lands. One mechanism Virginia will employ to target its acquisition programs and dollars toward the most valued lands is through the VLCF, which splits its funding among four uses: natural area protection; open spaces and parks; farmlands and forest preservation; and, historic area preservation. The VLCF also passes money to the Virginia Outdoors Foundation for its easement program. VLCF is responsible for developing a "needs assessment" (strategic plan) for future land preservation targeting efforts that will cohesively synthesize those properties and needs identified in the recently revised Virginia Outdoors Plan, the Virginia Natural Heritage Plan, the Virginia Institute of Marine Science Inventory, the Virginia Joint Venture Board of the North American Waterfowl Management Plan, the Virginia Board of Historic Resources Inventory, and any other inventories, plans, priorities, or initiatives provided by VDACS or DOF. This information feeds into the Virginia Conservation Lands Assessment (CLA) which is being developed by DCR and DEQ and will be a key tool for targeting the most important lands for preservation (see response for 4.1.1). The state is also partnering with the Virginia United Land Trust to develop the framework for a land trust regional land conservation/ preservation plan.

Additionally, the state is working hard to ensure that adequate funding is available to purchase the lands and easements necessary to meet the C2K goals. The Commonwealth has provided DCR with $20 million in land preservation funding through Virginia Public Building Authority Bonds and $36.5 million through General Obligation Bonds. Both will be utilized to acquire key State Park and Natural Heritage lands. Additionally, the Governor's Natural Resources Funding Commission has made recommendations regarding potential funding mechanisms for land conservation and other natural resources needs for his consideration. The Commonwealth is also working with its Congressional representatives, to seek increased federal funding to supplement state land conservation programs.

Progress/Outlook

Virginia continues to make progress on mechanisms for spending land protection funds effectively, but still lacks a permanent funding source to fully address current goals. The ongoing development of the Virginia Conservation Lands Assessment and

its planned enhancement to serve as a needs assessment (targeting) tool for the VLCF are promising activities. The Commonwealth has the capability to accurately identify and track its preserved lands and the programs in place to protect the lands within the Commonwealth.

Virginia's current land preservation status (# of acres of land preserved in Virginia's portion of the Chesapeake Bay Watershed) as of June 30, 2003 is as follows:
Federal - 1,737,680.72
State - 463,850.65
Local - 101,873.00
Non Profit/ Private - 30,438
Total - 2,333,842.37
Percent of Bay Watershed Protected in Virginia - 16.87%

20% of Virginia's Bay acreage is 2,766,378 acres. As Virginia has protected 2,333,842 acres, or 16.87% of Virginia's portion of the watershed, Virginia's remaining target is 432,536 acres. Over the last 3 years, Virginia has preserved in the Bay Watershed on average, 37,989 acres per year.

Additional Efforts

Virginia must continue to seek state and federal funds to assist with land preservation efforts and enhance our programs to educate landowners on opportunities available to them to protect their lands from future development and to keep them as working open space. Permanent funding sources for the VLCF and VOF should be considered. To meet its 20% preservation target by 2010, Virginia will need to nearly double its annual average preservation rate to 61,791 acres per year.

4.1.4 -

Provide technical and financial assistance to local governments to plan for or revise plans, ordinances and subdivision regulations to provide for the conservation and sustainable use of the forest and agricultural lands.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

Primary activities related to this commitment will need to be addressed at the state level. However, the Bay Program can be a conduit for information related to this commitment. The Bay Local Government Information Network (Bay LOGIN) is facilitated and maintained by the International City/County Management Association (ICMA). Bay LOGIN functions as a part of the Chesapeake Bay Program and the Local Government Advisory Committee (LGAC). The Bay LOGIN strives to strengthen the knowledge of local governments in the Chesapeake Bay watershed. It offers a number of services including news flashes, a newsletter, a listserv, queries, surveys, an archive, links to relevant Web sites, and more. These vehicles not only enable local government officials to keep up with bay related issues and significant impacts on local governments regarding the Chesapeake 2000 Agreement, it also provides the an opportunity to give feedback. Future services provided on the network may include: Land Use; Watershed Management Planning; Land Preservation; Environmentally Sensitive Design; Maps/GIS Analysis; Model Codes/Regulations/Programs; Sound Land Use; Best Management Practices; Habitat Restoration/Preservation; Riparian Buffer; Stormwater Management; and Wetlands Restoration/Preservation information to name a few categories. Information provided

on this website may help address elements of this commitment.

Additionally, the Bay Program funds projects that promote and support low-impact design and smart growth, including training workshops for local governments on practical site and watershed planning, and on "green design." The Program also produced Visual Planning Tools, a handbook for local communities, which illustrates environmentally sensitive development techniques, and offers an internet-based document, the Environmentally Sensitive Development Practices Database.

State Role

State government participants include: CBLAD, DCR, DGIF, DOF and VDACS.

The Commonwealth needs to research potential Code of Virginia and Virginia Administrative Code additions or modifications, as well as local ordinance updates, that may provide for the conservation and sustainable use of forest and agricultural lands. Focus should be placed on implementation and refinement of existing laws such as the Agricultural and Forestal Districts Act in Title 15.2 and the Special Assessment for Land Preservation in Title 58.1 of the Code of Virginia. The Commonwealth could enhance educational programs for local officials on the issues related to the viability of the agricultural economy and on how land use management programs can affect and even improve that viability. Helping to maintain the economic feasibility of farming and forest management helps prevent the conversion of farmland and forest land to other uses. VDACS has programs in two primary areas to help maintain the viability of Virginia agriculture. The first area includes marketing programs that assist farmers in the identification and development of domestic and international markets for their products. The second set of programs seeks to attract new agricultural ventures to Virginia that range from farms, to processors, to all of the related types of businesses that facilitate the expansion of existing Virginia agricultural businesses (farms, processors, etc.).

Progress/Outlook

At this time, progress specific to this commitment has been limited. Pursuing changes to state and local laws, regulations, ordinances, and plans will require activity well into the future. One mechanism to begin to address some of these issues will be through the Governor's Natural Resources Partnership Agenda. The Agenda calls for the Department of Conservation and Recreation to "work with the building community and local governments and other agencies to develop a plan to encourage land preservation based on land conversion rates, promote cluster development, and fund local land banks. Localities could use these banks to accomplish permanent conservation of sensitive lands or historic sites. Recommendations are due by June 2004." The Department envisions that this process will help identify key laws and ordinances that if applied on a statewide basis will help balance conservation and development rates and will help promote the continuation of working farms and forests across Virginia's landscape.

Additional Efforts

4.1.5 -

In cooperation with local governments, develop and maintain in each jurisdiction a strong GIS system to track the preservation of resource lands and support the implementation of sound land use practices.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

This commitment will primarily be implemented at the state/local level with the Bay Program providing modest support through the activities of the Land Data Workgroup and the Land Conservation Workgroup under the guidance of the Land, Growth and Stewardship Subcommittee. The Bay Program may also be in a position to produce additional information that would supplement a state/local GIS system through the development of a Chesapeake Resource Lands Atlas, a report document with maps that would characterize the status, trends, and condition of resource lands. The report would address extent, location, and change of resource lands and indicate areas of high value and vulnerability. The Bay Program's efforts would also result in the production of:

1. A series of environmental indicators that reflect resource land issues related to water quality, habitat, and economic factors for the 11-digit watersheds of the Chesapeake Bay basin.

2. A map set of forest, farmland, and wetland areas that contain important ecological and economic features, and those that are vulnerable to conversion or degradation.

3. A technical report that describes the analysis products and interpretation of findings.

State Role

State government participants include: CBLAD, DCR, DGIF, DHCD, DOF, VGIN and VMRC.

To meet this commitment, Virginia will utilize its "Protected Natural, Historic, and Cultural Lands Layers" database. DCR will continue to coordinate with local governments to track their preservation of resource lands and add these to that comprehensive database. Localities and planning district commissions (PDCs) will have web-based access to these layers for their use in local planning efforts. In addition to working with localities and PDCs, DCR's Land Conservation Office will also work with non-profit conservation organizations to capture their preservation activities. DCR will work with state and federal agencies to develop a mechanism to cooperatively ensure that updates to the data layers in the protected lands database are regularly provided.

Progress/Outlook

This commitment will necessitate a great deal of coordination amongst federal, state, and local entities using GIS. This will be an on-going effort, with data sets needing to be updated and exchanged periodically. The state has staff to address data coordination with land trusts and localities, to coordinate preserved lands layer development, and to make preserved lands information available via the internet. The Commonwealth is and will continue to make significant advances on the GIS front and will coordinate these advances with the localities and PDCs.

Additional Efforts

Expanded resources might include the addition of several more GIS technical specialists to address key layers such as prime soils, farmlands, etc.

4.2 - Development, Redevelopment and Revitalization

4.2.1 -
By 2012, reduce the rate of harmful sprawl development of forest and agricultural land in the Chesapeake Bay watershed by 30 percent measured as an average over five years from the baseline of 1992-1997, with measures and progress reported regularly to the Chesapeake Executive Council.

Chesapeake Bay Local Assistance Department -

Year: **2003**

Approach to Implementation

This commitment will be implemented by identifying barriers to, and opportunities for, promoting sound land use, strengthening programs promoting sound land use (including those other commitments which will help achieve this), and finally, providing technical and financial assistance to targeted audiences to promote environmentally sensitive new development and redevelopment. Land use decisions in Virginia are made at the local level and it will be difficult for state programs to have an overriding influence on the reduction of sprawl development.

Since this commitment is to be measured on a watershed wide basis, the tracking system will be created, maintained, and operated within the Bay Program. Because development activity is to be tracked, there may be a need for locality specific information that may have to be provided by, or through, the Commonwealth. In the year 2007, the first assessment for progress will be accomplished and in 2012, the final data collection and assessment will occur.

State Role

State government participants include: CBLAD, DCR, DEQ, DOF and DHCD.
The state has the lead on this commitment within the CBP, and the state agencies noted above are carrying out a number of programs and activities that contribute to the implementation of this commitment. However, local governments will do the major portion of the implementation of this commitment. Virginia also participates in the Development, Redevelopment and Revitalization workgroup, a subset of LGSS, which is charged with developing a strategy to meet this commitment. The workgroup has developed draft parameters for the commitment, a definition of harmful sprawl, a baseline determination and a direction for a tracking system. The jurisdictions have agreed on the definition of harmful sprawl and the tracking methodology which will be RESAC. Virginia will not be required to provide or maintain a separate data system but may have to provide some data. The Commonwealth will need to develop and implement measures to reduce “harmful sprawl” development (however defined) of agriculture and forested lands to accommodate a fair share of the 30 percent target.

Progress/Outlook

Status of this commitment cannot be adequately assessed until the baseline is established , the target is set, and the measurement period is determined. Setting the baseline to track land conversion is in progress but delayed because RESAC land cover data is not available unitl Dec. 2003 and draft RESAC impervious cover data is available but is biased towards high/medium density development. While the states await the data and tracking system from the Bay Program, efforts to effectively reduce the impacts from rapid sprawl within the watershed should continue.

Additional Efforts

Significant resources will be necessary to effect change on this scale within Virginia. Technical assistance will be critical to promoting sound land use and environmentally sensitive designs. Virginia also would benefit greatly from a coordinated approach to

this effort with land use planning expertise directed to provide technical assistance to local governments and the development community.

4.2.2 -

By 2005, in cooperation with local government, identify and remove state and local impediments to low impact development designs to encourage the use of such approaches and minimize water quality impacts.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

This commitment will be achieved through a cooperative effort by state agencies, PDC's and local governments. In addition to education and outreach efforts, forums for discussion among stakeholders, including state agency representatives, the development community and local officials will need to be held, incentives for encouraging low impact design and other approaches will need to be developed, and actual state and local code changes will need to be enacted.

State Role

State government participants include: CBLAD, DCR, DEQ and VDOT.

Virginia agencies are carrying out a number of programs and activities that contribute to the implementation of this commitment. Those efforts include programs that encourage the use of low impact design and better site design through work with community groups, the development community, and localities. Some programs have specifically begun to address the identification and removal of impediments to low impact development and minimization of water quality impacts. Other programs provide training and technical assistance services to promote the use of bio-retention as a low impact development technique.

Progress/Outlook

Two work groups are currently examining Low Impact Development (LID) in Virginia. One is a a group of LID stakeholders lead by the U.S. Army Corps of Engineers. The other is a work group initiated by the legislature to report of the status of Low Impact Development by October 2004. Progress on this commitment is feasible since many of the initiatives coincide with initiatives already in progress. State and more importantly local regulatory changes will have to occur in order to remove impediments for environmentally sensitive designs.

Additional Efforts

A strong commitment from Virginia's Executive and Legislative branches as well as local governments will be necessary to accomplish the incentives for regulatory changes that will need to occur at the state and local levels. Additional financial resources may be needed to accomplish this commitment on a large scale throughout the Bay Watershed.

4.2.3 -

Work with communities and local governments to encourage sound land use planning and practices that address the impacts of growth, development and transportation on the watershed.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

The current approach to this commitment is composed of efforts by a variety of state programs which address portions of this issue including land use management, comprehensive plan requirements, better site design programs, local erosion and sediment control and stormwater management program reviews, watershed conservation roundtable organizations, low impact development workshops, transportation planning initiatives, and others, etc. However, to fully achieve implementation of this commitment, a more structured and systemic, cooperative state-local partnership would need to be developed to address the impacts of growth, development and transportation on the watershed. A strategy would need to be developed and implemented to work with local governments to encourage low impact development designs; encourage the concentration of new residential development in areas supported by adequate water resources and infrastructure; encourage sound land use and practices that address the impacts of growth, development and transportation in the watershed; and promote redevelopment.

In March 2003 a Low Impact Development Taskforce was formed to address these issues within the Commonwealth. In addition to this Taskforce, the state has numerous voluntary and regulatory programs that work towards meeting this commitment.

State Role

State government participants include: CBLAD, DCR and DEQ.

The state has the lead on this commitment and the agencies noted above are carrying out a number of programs and activities that contribute to the implementation of this commitment. Those efforts include the Chesapeake Bay Preservation Act criteria for sound land use management which have been incorporated into the guidance and requirements for comprehensive plans and land management ordinances of Tidewater localities; local program review process, training and certification, and technical assistance to mitigate and minimize the environmental impacts of development throughout the Commonwealth. However, Virginia has no comprehensive statewide or Bay watershed-wide approach to sound land use planning and practices which fully address the impacts of growth, development and transportation on the watershed.

Progress/Outlook

Some progress on this will occur through existing programs. However, a cooperative approach would be necessary to encourage sound land use planning and practice within the entire Bay Watershed.
In April 2003 the state conducted a series of watershed management planning workshops to promote two watershed management planning guides that will help localities take measures to utilize sound land use principles.

Existing programs include the following:

- **Ongoing state programs:**

- ***Regulatory Programs:***
- The Bay Act;
- Erosion and Sediment Control Law;
- VPDES Phase I and Phase II permits;
- TMDL compliance.

- ***Voluntary/Incentive Programs:***

- Watershed Planning;
- Tributary Strategies;
- Stormwater Management Law;
- Open Space Preservation Initiatives—VLCF, CREP, VOF, WQIA, PDR's, easements, clustering provisions, etc.;
- Urban Nutrient Management Planning;
- Agriculture Plans;
- Brownfields Program;
- Enterprise Zones and other urban redevelopment programs;
- Coastal Management Act;
- GIS and modeling tools;
- TMDL planning.

- ***Promotional/ Educational and Outreach Activities:***
- Technical assistance programs;
- Educational programs;
- Urban nutrient management programs (Bayscapes);
- The cooperative watershed initiatives program;
- Better Site Design;
- Low Impact Development.

Additional Efforts

A state-local partnership and state strategy must be developed to implement this commitment. Financial and technical assistance for Better Site Design, Low Impact Development, adequate public infrastructure, cluster/village development designs, open space conservation development, transit planning, and other land use planning and transportation planning techniques will be essential. Incentives for local government's to incorporate these measures and implement changes to their planning practices will also be critical.

Additionally, localities are developing Tributary Strategies that will address nonpoint source pollution reductions via watershed management and sound land use management principles.

4.2.4 -

By 2002, review tax policies to identify elements which discourage sustainable development practices or encourage undesirable growth patterns. Promote the modification of such policies and the creation of tax incentives which promote the conservation of resource lands and encourage investments consistent with sound growth management principles.

Chesapeake Bay Local Assistance Department -

Year: **2003**

Approach to Implementation

A Bay Program study on tax policy conducted by the Environmental Law Institute was undertaken to meet this commitment. The study was completed and presented to the Land Growth and Stewardship Subcommittee (LGSS) in September. Each partner state will take the study and corresponding recommendations back to their administrations and provide a response back to LGSS in January. The report is a thorough analysis of tax policies within each of the Bay states and how these policies might discourage sustainable development practices or undesirable growth patterns.

State Role
State government participants include: CBLAD, DCR, DOF, TAX and the State Land Advisory Council.

The state has the lead on this commitment. The Commonwealth should take the ELI report and seriously look at the recommendations provided for Virginia. The state, has, in recent legislative sessions, adopted enabling legislation to accommodate tax credits associated with water quality improvement such as the erosion control and riparian buffer credits. The Commonwealth also accommodates land value taxation for agricultural and forestal lands. While the Commonwealth provides these tools, implementation occurs at the local level. To assist local assessors and governing bodies in these matters, the Commonwealth provides administrative tools and guidance that is available in hard copy and Internet. The Commonwealth will continue in this education and assistance role.

Expanding these tax policy efforts to address "elements that discourage sustainable development practices or encourage undesirable growth patterns" and to "promote the modification of such policies" and "encourage investments consistent with sound growth management principles" can, currently, only be address by the Commonwealth through policy guidance absent any significant and wholesale change to Virginia's state and local tax structure.

Progress/Outlook
Much of the identification and evaluation phase of this effort occurred prior to December 31, 2002, with identified changes to the Code of Virginia and related tax policies possible in subsequent years.

Additional Efforts
Tax incentives and economic development incentives may become important in the effort to redevelop "Brownfields". In addition, there is need to complete a review of the application of the tax incentives in the Bay localities. Once this review is completed by the workgroup, they will develop a promotional strategy highlighting the benefits and strategies for implementation. Staff with expertise in this field will be needed for the promotional efforts. As part of this exercise, the Manual of the State Land Evaluation Advisory Council should be republished as technical assistance materials.

4.2.5 -
The jurisdictions will promote redevelopment and remove barriers to investment in underutilized urban, suburban and rural communities by working with localities and development interests.

Chesapeake Bay Local Assistance Department -

Year: **2003**

Approach to Implementation

The approach to implementation of this commitment is currently addressed through existing programs such the administration of the Enterprise Zone Program, Derelict Structures Program, and the "Brownfields" program. There have been recommendations to the Governor for five additional enterprise zones and processing of enterprise zone tax credit and job grant applications from businesses within the existing 52 zones that have created new jobs and made investments in distressed areas.

To meet this commitment, Virginia must provide more incentives for redevelopment and identifying and removing barriers. This will require a comprehensive review of current incentives and barriers by the appropriate state agencies and in cooperation with local governments.

State Role

State government participants include: CBLAD, DCR, DEQ and DHCD.

The state has the lead on this commitment. While there is no formal coordinated approach to this commitment, the agencies noted above are carrying out a number of programs and activities that contribute to the implementation of this commitment. Those efforts include the Enterprise Zone and the Derelict Structures Program, which can be used to stimulate redevelopment of distressed areas. EZ Program provides state incentives to businesses that create new jobs and investment. Zones are geographically designated areas that are distressed and have been identified as having special economic needs. A significant number of these zones are in the Chesapeake Bay watershed. The intent of these zones is to direct new economic activity to underutilized, distressed areas. The Derelict Structures Program provides grant funds to local governments to acquire, rehabilitate, stabilize or demolish structures that have a blighting influence. Addressing these derelict structures makes them available for redevelopment opportunities.

Progress/Outlook

The programs discussed above are ongoing and can continue to be promoted in attracting economic development and providing certain incentives that result in achievement of this commitment. To meet this commitment, Virginia must provide more incentives for redevelopment and identifying and removing barriers. This will require a comprehensive review of current incentives and barriers by the appropriate state agencies and in cooperation with local governments.

Additional Efforts

Additional efforts required will include additional and expanded incentive programs and financial and technical assistance for redevelopment efforts. There will need to be support from the General Assembly to accomplish this commitment.

4.2.6 -

By 2002, develop analytical tools that will allow local governments and communities to conduct watershed-based assessment of the impacts of growth, development and transportation decisions.

Chesapeake Bay Local Assistance Department -

Year: **2003**

Approach to Implementation

State agencies will continue to work with GIS data bases and applications and other modeling tools and refine them to improve the ability of localities to make wise decisions, develop effective plans pertaining to land use, coordinate and facilitate nonpoint source pollution control programs at the local level, and provide support to community watershed organizations to promote water quality stewardship in subwatersheds. As agencies conduct more systematic transportation planning, incorporating mass transit options along with roadway improvements, they will provide local governments and PDCs with their findings and recommendations pertinent to local long-term transportation planning. In this regard, agencies will no longer simply respond to local requests for transportation project funding, but will

instead begin to attempt to influence the direction of local transportation planning in ways that will help to achieve this commitment.

State Role

State government participants include: CBLAD, DCR, DEQ and VDOT.

Since the CBP's Land Growth and Stewardship Subcommittee has the lead on this commitment, Virginia state agencies are working within the subcommittee and its workgroups to develop better tracking tools for the impacts of growth, development and transportation decisions in the Bay Watershed. Virginia will promote among local governments the use of analytical tools for conducting watershed-based assessments of the impacts of growth, development and transportation and to understand and predict the probable impacts and outcomes of alternative development scenarios.

The LGSS is reviewing a draft brochure of Analytical Tools which will be posted on the CBP website. This brochure serves as an introduction to the role of analytical tools in sound land use planning, and recommends that local planning use the PlaceMatters web page. This web page contains a queried database of many analytical tools, including those in the EPA report.

Progress/Outlook

The current activities of state agencies will not result in comprehensive, consistent tools for local governments to conduct watershed-based assessments of the impacts of growth, development and transportation decisions. Its possible that some of the tools developed by the Bay Program will assist in this effort and provide more consistent tools to be utilized through the Bay Watershed.

Additional Efforts

Additional resources will be needed to support the development of analytical tools to support watershed planning and growth/development impact analysis. These tools should be consistent throughout the Bay Watershed and should be transferable between local governments and regions. Incentives for local participation will also be critical.

4.2.7 -

By 2002, compile information and guidelines to assist local governments and communities to promote ecologically-based designs in order to limit impervious cover in undeveloped and moderately developed watersheds and reduce the impact of impervious cover in highly developed watersheds.

Chesapeake Bay Local Assistance Department -

Year: **2003**

Approach to Implementation

Various state agencies promote the implementation of ecologically based designs and practices to reduce the water quality impacts of impervious cover in highly developed watersheds and limit impervious cover in undeveloped or moderately developed watersheds. Agencies will continue to educate localities, developers, site designers, and plan reviewers in the techniques (including low impact development) required to minimize and mitigate the “harmful” effects of development. Agencies will continue to provide technical assistance to localities developing stormwater management plans to cost-effectively mitigate and minimize the “harmful” effects of new and existing developments. Watershed based approaches to local land use planning are promoted as the foundation of ecologically based land use plans.

Virginia is actively participating in the clearinghouse of community resources within the Chesapeake Bay Watershed being developed by the Bay Program for just such an effort. This clearinghouse will provide guidance documents, financial and technical assistance, policy documents, watershed planning information, model ordinances and other information to help local governments promote ecologically based designs.

State Role
State agencies involved: CBLAD, DCR, DEQ and VDOT.

While no formal coordinated approach to this commitment has been developed, the agencies noted above are carrying out a number of programs and activities that contribute to the implementation of this commitment. Those efforts include continued enforcement of requirements for limiting impervious cover and reducing the impacts of impervious cover as performance standards for development, promotion of ecologically-based designs that minimize impacts to water quality, continued technical and financial assistance and distribution of educational materials and outreach programs such as better site design program to promote low impact development. Other efforts include erosion and sediment programs, stormwater management programs which help localities minimize impervious cover in developing areas and cooperative non-point source programs under the Water Quality Improvement Act. The last of these is a combination of local, state and federal programs to achieve a systematic means to improve water quality.

Many state agencies have been involved in the work of the Low Impact Development Task Force which was assigned to develop a certification process for low impact development techniques in acheiving quantifiable pollution prevention results, develop guidance for local governments and the general public to promote LID, to recommend changes to existing statutes and regulations to facilitate the use of LID techniques and to develop a model ordinance for use by local governments. It is hoped that the work of this task force will help to move Virginia closer to meeting this commitment.

Progress/Outlook
The various technical and financial assistance programs to serve the localities as well as basin-wide stormwater management are critical for this commitment. Outreach efforts related to better site design and work on removing impediments to better site design and low impact design initiatives, in particular, should help meet the objectives of this commitment for these localities. Appropriate state agencies could promote local adoption of development incentives towards these ends (i.e., density credits for projects that meet established objectives). Also, recognition programs could be developed or enhanced to provide public credit to developers who meet the objectives of this and other commitments.

Additional Efforts
Additional resources will be necessary to expand existing programs to fully meet this commitment.

4.2.8 -
Provide information to the development community and others so they may champion the application of sound land use practices.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

Key state agencies will continue to provide information to the land development industry to help them negotiate desirable outcomes that result in win-win projects for the localities as well as the builders. This involves striving for the same goals as are discussed in 4.2.2 and 4.2.3. Efforts to expand better site design programs and assist the development community through the provision of technical support and information about erosion and sediment control, comprehensive planning, growth management tools, stormwater management planning, low impact development, sensitive species, habitat, and natural communities will be critical.

Efforts to promote more use of low-impact subdivision street and drainage designs is important as well as programs such as the pre-qualified sites and buildings initiative is a planning effort that should result in providing the development community with sites that not only meet their needs but also reflect the application of sound land use principles by avoiding impacts to sensitive lands and minimizing permit issues for clients. Agencies utilize mailing lists or other means to communicate directly to economic development interests and provide informational publications pertaining to plant communities/animal species/habitat that would be useful to developers in accomplishing sound, environmentally sensitive project plans.

State Role

State government participants include: CBLAD, DCR, DGIF and VDOT.

This commitment calls for providing information to the development community and others so they may champion the application of sound land use practices. Virginia will utilize many of the tools being developed by the Bay Program for increased outreach to the development community. The other responsibility of the Commonwealth in this regard is for its agencies to continue with their research and program development efforts and to disseminate their findings.

Progress/Outlook

Progress is being made on this commitment through existing state programs, such as better site design work and non-point source programs. Transportation planning requires anyone performing land disturbing activities on the right of way to obtain a responsible land disturber erosion an sediment control certification and to attend an 8 hour training class prior to performing any land disturbing activities.

The expansion of better site design work will include research on identifying and removing barriers and impediments to LID and Better Site Design. One example includes a grant-funded project to Friends of the Rappahannock to work with localities on targeting and removing impediments. This project includes an education/outreach component to target Planning Commissions and Boards within local governments. One result of this project will be recommended code changes in each of the localities.

Additional Efforts

In order to more completely address this commitment, there needs to be dedicated resources to an education, outreach and technical assistance effort directed at the development community.

4.2.9 -

By 2003, work with local governments and communities to develop land-use management and water resource protection approaches that encourage the concentration of new residential development in areas supported by adequate water resources and infrastructure to minimize impacts on water quality.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

This commitment is strongly linked to Sound Land Use commitments 4.2.4 and 4.2.5, and many of the strategies applicable to those commitments will be applied to this one as well. Agencies will promote watershed-scale and environmentally-based approaches to land use planning. Through its review of local comprehensive plans, state agencies will support local government efforts to concentrate development in areas served by adequate public infrastructure. As a result of cooperative nonpoint source management planning land uses are more likely to be placed where adequate water resources exist. Basin-wide planning activities will incorporate regional approaches to infrastructure assessment.

Source water protection programs may also be applicable to this commitment. The Source Water Assessment Program (SWAP) is the first step in providing the owners of waterworks information concerning the locations of land use activities of concern that may impact their water supply. Currently, there is no mandatory source water protection under the Safe Drinking Water Act. However, the Act should encourage protection activities.

State Role

State government participants include: CBLAD, DCR, DEQ, VDACS, VDH and VDOT

The state has the lead for this commitment. The agencies noted above are carrying out a number of programs and activities that contribute to the implementation of this commitment. Baywide efforts include the implementation of effective stormwater management and erosion and sediment control programs and the development of cooperative non-point source programs under the Water Quality Improvement Act in each locality to reduce water resource impacts. Additional Tidewater specific efforts include the review and update of local comprehensive plans and land management ordinances and implementation of land management practices which minimize water quality impacts from development in Tidewater Virginia.

Progress/Outlook

The general focus for meeting this commitment will be an on-going process of building on the efforts the agencies are already making. There may be the need for improved coordination of programs during the first 1-2 years, but afterwards the focus will be on continued implementation.

Additional Efforts

The existing level of effort can continue with existing resources, as it is a component of the affected agencies general work programs. An acceleration of effort with regard to an assessment and assistance of the application of local policies toward this commitment would necessitate additional manpower and support resources. Perhaps greater local authority will be needed in addition to financial and technical assistance to localities to achieve this.

4.2.10 -

By 2004, the jurisdictions will evaluate local implementation of stormwater, erosion control and other locally-implemented water quality protection programs that affect the Bay system and ensure that these programs are being coordinated

and applied effectively in order to minimize the impacts of development.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

There are currently several studies underway that are evaluating the implementation of current stormwater, erosion control and other locally implemented water quality protection programs in Virginia.

- As result of the Governor's Natural Resources Leadership Summit (held April 2003), an interagency task force of state natural resource staff was created.

- The task force met on six occasions, held five stakeholder group meetings with local governments, the building and development community, soil and water conservation districts and environmental organizations. Also received written comments.

- For additional information contact DCR.

  The Erosion and Sediment Control (ESC) law and the Stormwater Management (SWM) law mandate that DCR provide regular review and evaluation of the effectiveness of local and state agency implementation of ESC (§10.1-562) and SWM (§10.1-603.12) programs and their consistency with the State Law and Regulations. The scheduled statewide review of local ESC programs, as approved annually by the Soil and Water Conservation Board (SWCB), establishes the schedule for the comprehensive review of local ESC and SWM programs. In 2000, the long–standing audit process was expanded and improved to be more beneficial to localities to help them identify solutions to common site design and program administration difficulties.. It includes data on population, topography, staff certification levels, random site inspections, plan review, effectiveness and overall program administration, to include fees charged. The audit results in a corrective action plan for each locality, noting any deficiencies and the timeline for improvement. Failure to comply with the plan can result in enforcement action by the Virginia Soil and Water Conservation Board. Ratings achieved by each locality in this urban nonpoint source review program can be compiled statewide so that each locality and its citizens know the relative status of protection efforts conducted by their jurisdiction. In Tidewater communities where the CPBA may apply, local programs are reviewed by DCR in the context of those ordinances. Also, this urban programs audit is the foundation for Virginia's urban nonpoint pollution reduction tracking system, maintained by DCR to help verify the accomplishment of the Tributary Strategy goals.

  As well, the Chesapeake Bay Preservation Act (CBPA) requires that the Chesapeake Bay Local Assistance Board ensure that its local programs are being implemented consistent with the requirements of the Act and associated regulations. A local audit process to evaluate existing local approaches to meeting requirements of the Chesapeake Bay Preservation Act is being developed for approval by the Board. This audit process will provide a mechanism of reviewing how each locality implements the Act and Regulations, which are an essential component of locally implemented water quality protection programs in the Tidewater area. A further component of this activity

is the development of an annual report format and a process for the review and evaluation of local program annual reports. The audit process will move CBLAD from its compliant based oversight of local program implementation into the type of pro-active oversight role that is expected by the General Assembly and reflected in this commitment.

The prioritization of the DCR/SWCB local program reviews has become a very important issue since preliminary discussions with DEQ indicate that a condition of the VPDES Municipal Stormwater Permit, both Phase I renewal, and Phase 2, may be an "approved" local ESC and SWM program. VDOT, the only state agency with a DCR certified, internally implemented E&S Control Program, will also be more aggressive in the review of its program's consistency and effectiveness.

State Role

State government participants include: CBLAD, DCR, DEQ, DOF and VDOT.

The Bay States have the lead for this commitment. In Virginia, DCR has responsibility state-wide and Bay-wide, and CBLAD has responsibility in Tidewater for evaluating the local implementation effectiveness of their erosion and sediment control requirements.

Progress/Outlook

Results of the current studies should help to better understand the implementation status of existing programs. Agencies are continuing to evaluate implementation of their respective laws and regulations through their current review processes. Agencies may need additional resources to meet the commitment deadline of 2004.

Additional Efforts

Agencies will need to increase the pace and effectiveness of their cooperative and coordinated oversight of local programs to the degree feasible, based on current resources. These changes should take place over the next 1-2 years and would necessitate a long-term commitment to local program implementation and enforcement. Local programs need the incentives and tools to do a better job as well as additional long term staffing and funding resources. Beyond that, these program reviews and oversight processes will become routine, based upon an established multi-year cycle for the review of all the programs.

4.2.11 -

Working with local governments and others, develop and promote wastewater treatment options, such as nutrient reducing septic systems, which protect public health and minimize impacts to the Bay's resources.

System Administrator -

Year: **2003**

Approach to Implementation

Several state agencies are involved with the subject of this commitment and have programs that contribute to the implementation of this commitment. An example is the Revolving Loan Fund that communities can use to establish and improve wastewater treatment works and state agency staff to work with and advise localities regarding wastewater treatment options. Another example is the promotion of new septic systems regulations that go further than to reduce nutrient discharges.

Other agencies have an enforcement role with local health departments and as such maintain and update the regulations that govern septic systems. Other requirements include performance criteria specific to septic system design and maintenance.

When biosolids are to be applied to agricultural lands, in most areas, a plan prepared by a DCR certified nutrient management planner governs the process to ensure the agronomic uptake of the nutrients. This reduces the potential for runoff pollution from these sites. Some localities have additional requirements to further restrict the risk of pollution from sludge.

State Role

State government participants include: CBLAD, DCR, DEQ, DHCD and VDH

The role of the state for this commitment will be to disseminate information to local units of government so that they may consider and adopt performance standards beyond those enforced by general statutes and regulations. The existing regulatory functions of the DOH and CBLAD provide an avenue of communication for such efforts. Also, through the DEQ Revolving Loan Fund, the Water Quality Improvement Fund, and Community Development Block Grants administered by DHCD technologies and systems that are more responsive to water quality considerations should be encouraged.

Progress/Outlook

VDH has recently finalized amendments of State On-Site Wastewater Treatment Regulations (for septic systems). These amendments will result in a quantum leap in the useful life and water quality/public health protection derived from new septic systems. As well, the regulations include more flexibility pertaining to alternative and innovative on-site treatment systems. CBLAD is also amending its program regulations. The septic system provisions of those regulations are proposed for revision to mirror the applicable flexibilities in the new VDH regulations.

DHCD administers the Community Development Block Grant (CDBG) Program in non-urban areas of the Commonwealth. A significant number of projects funded with CDBG resources involve provision of wastewater treatment systems to low- and moderate-income Households. Many of these households have never had sanitary wastewater disposal systems before. By providing these facilities to households that are not able to afford them otherwise, public health is improved and human waste contamination of the Bay is reduced.

Additional Efforts

Coordination efforts among state agencies should continue to improve and additional funding for grant programs for the installation of new systems is a need.

4.2.12 -

Strengthen brownfield redevelopment. By 2010, rehabilitate and restore 1,050 brownfield sites to productive use.

Department of Environmental Quality -

Year: **2003**

Approach to Implementation

Efforts to develop a brownfields and voluntary cleanup program that encourages and provides incentives for program participants are ongoing. By understanding and appreciating the challenges brownfield participants face, the program is finding ways

to provide equity to brownfield projects to help level the paying field between greenfields and brownfields.

Recent state and federal legislation provides critical legal and financial incentives to encourage brownfield redevelopment. DEQ recently released its program guidance manual which provides innovative and customer friendly tools to help developers see the value and opportunity in brownfield redevelopment.

State Role

State government participants include: DEQ, DHCD and VDOT.

The state has the lead for this commitment. VA's role in strengthening brownfields redevelopment includes facilitation of projects through reasonable regulatory requirements and technical assistance. DEQ works cooperatively with brownfield participants to help them understand how to implement available incentives, apply for grants, and navigate the brownfield process.

Progress/Outlook

Substantial progress is being made in understanding the needs of brownfield participants. Liability, cost, and timeliness are the three primary deterrents to brownfield redevelopment in VA. The program is actively developing ways to mitigate those deterrents through policy review/change and possible legislative actions. The outcome for such progress looks excellent as it is recognized that the critical role it plays in facilitating brownfield redevelopment successes and looks to leverage off of beneficial federal brownfield activities.

Through FY 2003, DEQ has reported 33 successes towards the goal of rehabilitating/restoring 150 brownfield sites to productive use by 2010. The outlook appears favorable as interest in brownfield redevelopment continues to be strong and the number of project starts remain steady.

Additional Efforts

Additional efforts to help meet the commitments include educating/assisting local governments, continual marketing of program availability, increasing benefits, and working with state agencies to find synergies and focus resources.

DEQ continues to assist governmental entities by supporting their federal brownfield grant efforts. DEQ plans to evaluate the brownfield program this year in an effort to improve and streamline where possible.

4.2.13 -

Working with local governments, encourage the development and implementation of emerging urban storm water retrofit practices to improve their water quantity and quality function.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

Various state agencies work with localities to encourage and assist in the development of comprehensive watershed-wide or laclity-wide stormwater management programs that include retrofit opportunities. There is a significant need for consistent annual funding sources for demonstration retrofit practices.

State Role

State government participants include: CBLAD, DCR, DEQ and VDOT. Virginia agencies encourage localities to implement appropriate BMP retrofit technologies as part of their comprehensive water quality protection programs. State avenues for influencing retrofits include the VPDES Permit Program, the Chesapeake Bay Preservation Act, and the Stormwater Management Act.

Progress/Outlook

- Localities in Tidewater Virginia, as defined by the Chesapeake Bay Preservation Act (CBPA), are required to implement a storm water quality component of their CBPA ordinance. Significant areas of the Chesapeake Bay watershed in Virginia have no such requirement, but may adopt a stormwater management program. The CBPA does not address water quantity issues such as timing releases as does the stormwater management program. The Virginia Stormwater Management Law does not currently require local governments to implement a stormwater management program; it simply provides enabling authority to do so.

- Although total available for the program was only nominal, a grant program offered with funds from the Chesapeake Bay Implementation Grant created an opportunity for localities to implement urban storm water retrofit practices as demonstration sites. Projects funded directly with or in partnership with localities included stormwater retrofits in Fredericksburg in the Hazel Run watershed, an Arlington County office building green roof, a public condominum green roof in Fairfax County, and biofiltration areas in the City of Lexington. The program was offered a second year with project awards made in 2003 for implementation in 2004.

Additional Efforts

Additional state resources, in the form of staff and grant funding, are essential in order to accelerate progress on this commitment. The current opportunities to encourage the use of emerging practices include funding priorities within the WQIA implementation (assuming funds exist), compliance with Minimum Standard 19 of the ESC Regulations, and compliance with the water quality component of the stormwater management regulations. Broader adoption of stormwater management programs would significantly enhance the success of this commitment.

4.3 - Transportation

4.3.1 -

By 2002, the signatory jurisdictions will promote coordination of transportation and land use planning to encourage compact, mixed use development patterns, revitalization in existing communities and transportation strategies that minimize adverse effects on the Bay and its tributaries.

Virginia Department of Transportation -

Year: **2003**

Approach to Implementation

The commonwealth will continue to work with local governments, planning district commissions (PDCs) and metropolitan planning organizations (MPOs) to encourage

coordination of transportation and land use planning.

State Role

State government participants include: VDOT.

Under state law in Virginia land use decisions are the responsibility of local governments. Therefore, the local governments are the primary level of government to address land use decisions in Virginia. The local governments rely on the planning district commissions (PDCs) and the metropolitan planning organizations (MPOs) to facilitate the coordination of transportation and land use decisions.

VDOT relies heavily on local input in transportation planning. Localities control land use decision-making in Virginia, and VDOT has no power over local land use. Local land use, employment, and population projections drive the long-range transportation planning process.

VDOT currently assists in the development of Constrained Long Range Transportation Plans for 11 Metropolitan Planning Organization areas (urbanized areas, pop. of 50,000 or more). These plans identify transportation network deficiencies and recommend improvements. VDOT receives input from local jurisdictions on projected land use and employment locations, which is used in the model development to determine future traffic patterns. Projected future land use is based on local comprehensive plans, and local input. These plans are inter-modal and updated every 3-5 years.

VDOT also develops Small Urban Area Plans for 49 urban areas that have a population below 50,000. The plans identify deficiencies and recommend improvements to the transportation system. Again, VDOT relies heavily on local input on future land use and employment growth, since these drive travel patterns. These plans are inter-modal in nature, and are updated every 5 years.

VDOT is an active proponent of Rural Transportation Planning. Virginia has 21 regional planning agencies known as Planning District Commissions. VDOT provides each of these PDCs annual funding to conduct rural transportation planning which can include: assisting localities with the update of the transportation elements of local comprehensive plans, developing regional bicycle and pedestrian plans, and assisting VDOT with development of Statewide Transportation Plan efforts.

Progress/Outlook

In Virginia, localities (96 counties and 40 independent cities) control land use decisions. There is no state authority over land use decisions or planning. All localities are required to have comprehensive land use plans, however, each locality has a choice over what is included in the comprehensive plan. VDOT (a state agency) has no authority over local land use planning.

VDOT is developing a Statewide Multi-modal Transportation Plan, and the Transportation section of the Chesapeake 2000 agreement will be included in this document. This plan will address the transportation needs of all non-urbanized areas.

Additional Efforts

Imposing specific development criteria such as that mentioned in 4.3.1 will be very, very challenging considering many of localities are scrambling for any economic development possiblities. Significant resources will be necessary to effect change on

this scale within Virginia. Financial and technical assistance will be critical to promoting sound land use at the local level.

4.3.2 -
By 2002, each state will coordinate its transportation policies and programs to reduce the dependence on automobiles by incorporating travel alternatives such as telework, pedestrian, bicycle and transit options, as appropriate, in the design of projects so as to increase the availability of alternative modes of travel as measured by increased use of those alternatives.

System Administrator -

Year: **2003**

Approach to Implementation
Multimodal studies are being undertaken by VDOT as well as providing continued support for special grants for advanced vehicle programs and bike/pedestrian programs. Federal TEA-21 program provides funding for the Surface Transportation Program, National Highway System, Congestion Mitigation and Air Quality (CMAQ) Improvement Program, transit and advanced vehicle programs, and bike/pedestrian programs

State Role
Secretary of Transportation, Clement outlined policy goals related to bicycles and pedestrians.

1. Bicyclists, walkers and other modes of non-motorized transportation should receive the same consideration as motorized transportation in the planning, design, construction and operation of Virginia's transportation network.

2. Bike lanes, sidewalks, shared-use paths or other accommodations should be included in the design of all new highway and major reconstruction projects, unless special circumstances exist that prevent the inclusion of such accommodations or a local governing body has formally requested that bike lanes or other access not be included in a particular project.

3. Access to the entire transportation system should be improved for bicyclists and pedestrians. To achieve this goal, Clement has asked VDOT to review all existing restrictions affecting bike and pedestrian access to highway facilities.

4. Current funding procedures for bicycle and pedestrian facilities, including design, construction, maintenance and operations, should be reviewed to ensure that these facilities are treated in the same fashion as highway projects.

5. VDOT should identify recommendations for amending any statutory provisions that either hinder the inclusion of bicycle or pedestrian accommodations in construction or prohibit the use of state or federal transportation funds for stand-alone bicycle or pedestrian construction projects.

6. VDOT should ensure that all these activities are coordinated at the statewide and VDOT district levels, including the appointment of focused district advisory councils for pedestrian and bicycle issues.

Progress/Outlook

VDOT is conducting a policy and procedural review is ensure that motorized and non-

motorized modes of transportation receive the same consideration in the planning, design, funding, construction, operation, and maintenance of Virginia's transportation network through:

- The review of current policies, programs, and practices relating to the provision of pedestrian and bicycle transportation accommodations
- An evaluation of how VDOT should participate in the provision of pedestrian and bicycle accommodations
- The preparation of a proposed policy to guide disciplines within VDOT in addressing such accommodations in a manner that is consistent with the previously stated goals and is flexible in meeting changing needs and opportunities
- Outreach to internal and external stakeholders is a key component of the bicycle and pedestrian policy project. Throughout the project, various outreach tools will be used to provide opportunities for public participation and to solicit feedback.

VDOT is undertaking Regional Bikeway and Trail Network Studies in Northern Virginia, Hampton Road and Richmond regional area to identify a network of bikeways which transcends jurisdictional boundaries within each region, without compromising the local wishes as documented in various comprehensive plans

VDOT and DRPT is undertaking a teleworking study to provide a comprehensive analysis of teleworking to support decisions on the level of involvement in future teleworking activities in Commonwealth of Virginia. The study team is comprised of staff from the Secretary of Transportation, Secretary of Technology and Secretary of Finance. This study team was formed as a result of House Bill 30. The Bill directed that the study investigate the potential benefits of teleworking to the Commonwealth of Virginia. The study will define teleworking, assess cost of teleworking to employers and to the government, impact of teleworking on congestion, applicability of teleworking in all regions of the state, determine performance measures that can gauge the benefits of teleworking, and identify alternative for encouraging the use of teleworking in Virginia.

VDOT is assessing their policies, programs, and practices relating to the provision of pedestrian and bicycle transportation accommodations using a web-based survey.

VDOT is implementing pilot program in Botetourt and Caroline Counties to assist the County in developing the transportation element of the comprehensive plan.

Additional Efforts

Meeting this commitment seems favorable since many of the initiatives required to accomplish this task coincide with initiatives already in progress.

4.3.3 -

Consider the provisions of the federal transportation statutes for opportunities to purchase easements to preserve resource lands adjacent to rights of way and special efforts for stormwater management on both new and rehabilitation projects.

Virginia Department of Transportation -

Year: **2003**

Approach to Implementation

VDOT is working with other states agencies in identifying lands where significant natural resources exist to determine if their acquisition can be included as part of our projects compensatory mitigation packages.

State Role

VDOT purchases easements for compensatory mitigation for impacts to streams and wetlands, and for habitat preservation. VDOT's purchased 757.7 acres of palustrian-forested wetlands adjacent to the Dismal Swamp and the transfer of the property to Department of Game and Inland Fisheries (DGIF). DGIF put the property under a restrictive covenant. VDOT has also worked with private landholders to preserve wetlands and place them under restrictive covenants as part of our compensatory mitigation-banking program. Under this arrangement, VDOT has preserved 45 acres of wetlands within the Chesapeake Bay watershed. As for Storm water, VDOT will continue to implement projects in accordance with Virginia's Storm Water Management Law.

Progress/Outlook

VDOT will continue to use a multi-agency approach along with our GIS to identify potential properties with significant natural resources areas for inclusion in project compensatory mitigation packages.

Additional Efforts

Funding for Virginia's road building program is less than what is needed. Diverting funds to purchase land preservation easements not part of a compensatory mitigation package or retrofitting storm water management facilities that is not required for project viability or by the Code of Virginia could result in delays in the delivery of the Commonwealth's transportation improvement program. Additional financial resources and property owner willingness will be needed to accomplish this commitment on a large scale throughout the Bay Watershed.

4.3.4 -

Establish policies and incentives which encourage the use of clean vehicle and other transportation technologies that reduce emissions.

Department of General Services -

Year: **2003**

Approach to Implementation

The Energy Policy Act of 1992 (EPACT) has been impacting the State's fleet purchases since model year 1997. EPACT currently requires that 75% of the vehicles purchased, which are under 8500 lbs. and principally operated in the EPACT covered areas, be capable of operating on some type of alternative fuel.

State Role

The Department of General Services (DGS) reports annually to the Department of Energy (DOE) regarding the Stat's compliance with EPACT.

Progress/Outlook

The Commonwealth has made advances in fleet management through the use of alternatively fueled vehicles. DGS's report to DOE for model year 2003 reflected the purchase of 102 alternative fuel vehicles. As the end of model year 2003, the State has 10-banked credits.

The State's passenger fleet consists of 613 vehicles, which are capable of operating on some type of alternative fuel. The State's total passenger vehicle fleet, including law enforcement vehicles, consists of approximately 8200 vehicles.

Additional Efforts
Beginning with model year 2004, the state's institutions of higher education will be responsible for reporting directly to DOE regarding their EPACT compliance.

Achieving this commitment will probably require significant incentives in the way of tax credits, air permit credits, etc. Significant resources will be necessary to effect change on this scale within Virginia. Financial and technical assistance will be critical.

4.4 - Public Access

4.4.1 -

By 2010, expand by 30 percent the system of public access points to the Bay, its tributaries and related resource sites in an environmentally sensitive manner by working with state and federal agencies, local governments and stakeholder organizations.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation
The Chesapeake Bay Program's Public Access Work Group has agreed that the 30% increase is based on the number of sites shown in the Public Access Guide completed in 2000. The guide identifies over 600 sites, 220 of which are in Virginia, this would mean that Virginia will need to provide approximately 66 new access areas by 2010. Access is divided into four major categories; beach, fishing, natural area, and boating. Initial strategies for meeting this goal include:

- Development of new access facilities on existing public lands
- Acquisition of new access sites for public access
- Directing grant programs towards projects which increase public access
- Providing enhanced technical assistance to localities in the planning and development of access sites
- Creating partnerships with major private corporate land holders which offer public access opportunities

State Role
State government participants include: DCR, DEQ, DGIF, VIMS, VLCF, VOF, and the local governments in the tidal portion of the Commonwealth

The state's role is both to develop access opportunities through its programs as well as assist in this endeavor at the local level. All of the participants noted above are working toward this commitment either directly through acquisition and development of sites or indirectly through grant and technical assistance programs to localities. Finding suitable areas to acquire and obtaining sufficient funds for both acquisitions and/or development of new access sites will continue to be a challenge in meeting this commitment. Without additional resources it will be difficult to meet this commitment.

Progress/Outlook

Between 2000 and 2002, Virginia added 10 new sites. During 2003, the following projects have been completed to acquire, develop, or enhance access opportunities in Virginia:

- The Town of Urbana received a VLCF grant to acquire an abandoned marina site to open for public access for boating and fishing.

- DGIF and York County cooperated in the expansion of the Back Creek Park site at Yorktown to provide additional access for boat launching and added a new fishing pier.

- DGIF, VIMS and Accomack Co. cooperated in the development of a new high capacity boat ramp with parking area and a fishing pier at Harborton, on the bay side.

- DGIF and the City of Suffolk coordinated to develop a fishing pier at the Jones Creek ramp site, providing new opportunities for pier fishing at the City's Nike Park.

- Hanover county and DGIF have cooperated to develop a hand launch site on the upper tidal portion of the Pamunkey River.

- The County of Chesterfield received a Virginia Outdoors Fund (VOF) grant to help develop a new riverfront park along the James River.

- The City of Suffolk received a Virginia Outdoors Fund (VOF) grant to build an additional boat ramp at Bennett's Creek Park.

- Guard Shore in Accomack County consists of a 105 acre site acquired by DGIF. This site will provide fishing opportunities and wildlife observation areas with a small parking lot.

- Grundlen Park, acquired by the City of Hampton contains canoe launch, trail, wildlife observation areas, parking, and restroom.

Additional Efforts

The 2002 Parks and Recreation Facilities Bond funds could produce at least two large sites in the bay region during the coming year. Other state and local efforts are in the planning stage and could result in additional sites being added. However, increased coordination among all the state agencies, local governments and other stake holders will be required in order to meet the 6 sites/year target through 2010. The key element for meeting this target, however will be money. By their very location and nature, the acquisition, development and management of public water access sites is expensive. Depending on the nature of the site and type of access provided, costs can range from $5,000 for a simple hand carry site to several hundred thousand for a trailer boat launch site, in addition to the land cost, which is increasing dramatically each year..

4.4.2 -

By 2005, increase the number of designated water trails in the Chesapeake Bay region by 500 miles.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

The state's approach to the implementation of this commitment is three-fold. First, the state is developing designated water trails through efforts of the DCR. Second, they offer technical assistance to other groups and localities who are interested in trail development. Third, matching grant funds are being made available to localities and interest groups for water trail development.

State Role
State government participants include: DCR.

This commitment requires the addition of 500 miles of new water trails Baywide by 2005. It will be the state's role to not only develop water trails on its own but to work with river user groups and localities in the development of designated trails.

Progress/Outlook
Throughout the Chesapeake Bay region, more than 1498 miles have been designated as water trails by the affected states or the Gateways program. The goal of 500 additional miles has been exceeded and additional miles are being planned. In Virginia, about 357 miles have been designated as Water trails and 100 more miles are in the development stage. Additional segments, including the Capitan John Smith Water Trail are in the planning stages.

Based on projects already under way, Virginia should easily meets its target of 166 miles of designated water trail by 2005.

Additional Efforts
Following through on the projects underway and working with other proposals that are in the preliminary planning stages will ensure that Virginia exceeds its target by 2005.

4.4.3 -
Enhance interpretation materials that promote stewardship at natural, recreational, historical and cultural public access points within the Chesapeake Bay watershed.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation
Continue the development and distribution of interpretive materials at State owned lands offering public access. This is accomplished on a continuous basis at the DCR's state parks and natural area preserves and at DGIF facilities. Many sites owned by localities and non profit organizations also provide this service.

State Role
State government participants include: DCR and DGIF.

This commitment is on going and has no specific numerical target. The State's role will be to continue to develop interpretive and stewardship materials for distribution at public access sites. These can be in the form of new signage, brochures, exhibits and/or programs. Primary locations for these materials are at state parks, natural area preserves, state wildlife management areas and at state owned public boat ramps. Another major way in which this goal will be met is through the development of interpretive material for access sites that become a part of the Virginia Birding & Wildlife Trail.

Progress/Outlook

Since the program began in 2000, new interpretive exhibits have been developed in a

number of the coastal state parks and interpretive programs are offered through out the summer season. In addition, a new water trail guide to the Potomac River has been completed and distributed at appropriate sites along the river. The guide contains important stewardship information. Also, the state has received a grant for the development of new interpretive kiosks at its coastal state parks. Dozens of sites have been described in the Virginia Birding Trail, and that document, as well as the Potomac River Water Trail Guide and the Chesapeake Bay Public Access Guide contain appropriate interpretive and stewardship information. This commitment is being met on a continuing basis.

Additional Efforts
No additional effort is required in this instance. The state, however, needs to continue its process of providing appropriate interpretive material and programs at its public use facilities.

4.4.4 -
By 2003, develop partnerships with at least 30 sites to enhance place-based interpretation of Bay-related resources and themes and stimulate volunteer involvement in resource restoration and conservation.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation
This specific element, is tied to the National Park Service's Gateways program. Each site funded by the Gateways program must have place-based interpretation and become a component of the Gateways network. In addition, sites can apply to be a part of the network outside of the grant program. Sites can be identified as Hubs, Regional Information Centers, or Gateways. Therefore, each time a site meets the criteria to becomes a component of the Gateways network, and it counts towards meeting this commitment.

State Role
State government participants include: DCR, DHR, local governments, and non profits.

Individual site managers apply for and receive designation of sites as components of the Gateways network. Each site has a site-specific theme and where appropriate, an interpretive linkage to other gateway sites. Virginia (agencies, localities and non-profits) are applying for and receiving designation of sites as Gateways. This designation and development of the interpretive component meets the commitment.

Progress/Outlook
As of July 2003, Virginia has 35 designated Gateway or Regional Information Center sites. If Congress funds the program for next year as anticipated, several additional gateway sites could be added. Virginia's portion of this goal has been met and sites will continue to be added to the network in the coming years.

Additional Efforts
Virginia should continue to support the efforts of the Gateway program by encouraging qualifying sites to apply for recognition as Gateway sites.

Stewardship and Community Engagement

5.1 - Education and Outreach

5.1.1 -

Make education and outreach a priority in order to achieve public awareness and personal involvement on behalf of the Bay and local watersheds.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

The Bay Program's Communications and Education Subcommittee has developed a proposal to facilitate better outreach throughout the Bay watershed by using a mass media marketing based approach. A pilot media campaign in the Washington D.C. market is planned for Spring 2004. The campaign will be targeted primarily to suburban landowners to promote practices that lead to a reduction in nutrients. The overaching theme of the campaign will be that your actions can make a difference. This campaign will be seen throughout the northern portion of the state and will complement ongoing efforts by Virginia state agencies.

Virginia, through DCR and DEQ, have provided funding to schools throughout the Bay watershed for the development of meaningful outdoor experiences. Details from this program will be reported under 5.1.4.

All participating state agencies have programs in place to inform and involve the program in their Bay related efforts. Websites, brochures, watershed posters and videos are among the many tools available and being used. Those aspects of Virginia Naturally geared toward adult audiences also work to meet this commitment.

State Role

State government participants include: CBLAD, DCR, DEQ, DGIF, MRC and VCE.

With other commitments in this section (5.0) dealing directly with formal education, this particular commitment focuses on mass media outreach and education of the general public at large. As the entity with the most direct link between the Bay Program partnership and the citizens of Virginia, the state has a critical role in making outreach a priority in order to facilitate public awareness and personal involvement.

Major examples of the many activities carried out by the state are the following: Virginia is a major partner in the CESC mass media campaign previously mentioned. Using Chesapeake Bay Implementation grant funds, the state is committing $200,000 to the project. DCR is coordinating procurement of services for the campaign having developed a Request for Proposal for advertising services. DCR has also used CBIG funds to develop outreach pieces that can be used as fulfillment for the campaign.

Virginia is currently conducting a public process to develop nutrient and sediment tributary strategies in each of the commonwealth's major Chesapeake Bay tributary basins. Encouraging public involvement and engagement in teh development of these strategies is a priority. Kickoff meetings were held in each basin and from those meetings tributary teams made up of local government officials and staff, SWCD personnel, PDC staff, conservation group representatives and individual citizens were created. The strategie will also go through a public review process before being finalized.

As mentioned previously, a grant program developed by DCR and DEQ, and administered by the Virginia Resources Use and Education Council, provided funding directly to schools and schools districts to provide meaningful outdoor experiences in schools throughout the state's Bay watershed.

Progress/Outlook

This commitment was purposely left open-ended in the hopes that it would provide continuing guidance rather than prescribing a short-term action. We are seeing stakeholders in Virginia's portion of the watershed calling for more efforts to inform and involve citizens. The Washington DC pilot media campaign will also cover nearly the northern half of the state. This is the first campaign of its type, of this magnitude, in the state or in the Bay watershed.

As mentioned earlier, portions of Virginia Naturally have improved outreach as each of the state agencies has developed new materials and improved websites to increase the information available on the Bay and related watershed initiatives.

Additional Efforts

The states, as partners in the Bay Program, have done an adequate job of informing and involving targeted, affected groups of stakeholders. However, with the new commitments in Chesapeake 2000, the Chesapeake Bay Program cannot succeed, without the awareness and involvement of a much larger portion of the watershed's population. A coordinated, mass media approach will be needed to achieve this wider recognition and involvement.

5.1.2 -

Provide information to enhance the ability of citizen and community groups to participate in Bay restoration activities on their property and in their local watershed.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

A Bay Program task force the Chesapeake 2000 Watershed Commitments Task Force (CWiC) is coordinating development of an informational clearinghouse for citizen and community groups as well as helping facilitate watershed management planning throughout the Bay watershed.

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State Role

State government participants include: CBLAD, DCR, DEQ and VCE.

Again, partnering state agencies are the Bay Program's most direct link to citizen and community groups targeted. State representatives to CWiC will provide information and assist in development of the clearinghouse of watershed information available. In addition, most of the materials and services referenced in the clearinghouse will be those made available through state agencies. In addition, the state has been active in facilitating the development of watershed groups in the Chesapeake Bay tributary basins. Where watershed groups already exist they have become active participants in providing information and data on nonpoint source issues.

Progress/Outlook

Virginia has been a leader in facilitating the concept of watershed management. The Virginia CWiC group, now renamed the Virginia Watershed Advisory Committee

identified a number of key components desired in a comprehensive small watershed mangement plan. A Small Watershed Mangement Planning Guide was developed primarily for use by local governments. The guide will also be useful for community groups with a planning capacity. In addition, the committee, primarily through DCR staff, conducted six watershed training sessions with more than 700 participants. A larger more comprehensive "primer" on watershed management planning is currently being developed by DCR using Chesapeake Bay Implementation Grant funds. This guide will be of use to community and watershed groups that have not previously been involved in watershed planning initiatives. DCR continues to distribute a number of tools to assist watershed groups. These include storm stenciling kits, Adopt-A-Stream materials, watershed posters, a watershed video, and bumper stickers. In addition watershed management training has been provided to community watershed organizations as well as funding to assist those groups.

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Additional Efforts

While a number of tools have been developed that are extremely useful to communities organizing watershed organizations, delivering those tools at the grassroots level is a very labor intensive activity.

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5.1.3.1 -

Expand the use of new communications technologies to provide a comprehensive and interactive source of information on the Chesapeake Bay and its watershed for use by public and technical audiences.

System Administrator -

Year: **2003**

Approach to Implementation

At the CBP level the basic approach is to develop and implement memoranda of understanding and other mechanisms between the Bay Program and its partners to provide information in a common format.

State Role

All state agencies and institutions that have relevant information are or will be participants in meeting this commitment.

Most of the Bay and water quality and general environmental education (EE) programs, products and services that are available to Virginians have been compiled into a searchable on-line database, one of the most state comprehensive catalogs in the country. The Virginia Naturally web site http://www.vanaturally.com is a "seamless" collaboration of state and private groups that features a searchable calendar of educational events, stewardship opportunities and numerous educational resources. The web site also provides a framework for a virtual network of partners to share information and to communicate regularly and inexpensively with each other by mail.

In addition, local governments have a website (www.BayLogin.org) that enhances opportunities for interaction and technical information exchange relating to their activities which help implement the new agreement. (See assessment 5.2.6 for additional information on this website and its role.)

The state will support this commitment by making all pertinent data available through the Chesapeake Bay Program’s Chesapeake Information Management System

(CIMS). The Bay Program webmaster then takes appropriate information and makes it available to a more general audience through the CBP website, www.chesapeakebay.net.

Progress/Outlook
All involved state agencies have a CIMS Memorandum of Understanding or other mechanism in place to make sure information is being prepared in a CIMS compatible format.

Additional Efforts
The tracking of new commitments, particularly progress toward meeting our water quality commitments, will lead to the creation of volumes of new data.

5.1.3.2 -
By 2001, develop and maintain a web-based clearing house of this information specifically for use by educators.

System Administrator -

Year: **2003**

Approach to Implementation
The CBP funded a FY 2001 project under the Communications and Education Subcommitee to have a web-based educational clearinghouse developed. The project was bid through a CBP request for proposal. The Virginia Institute of Marine Science was the successful bidder and is in the process of developing the site. The result was ChesSIE (Chesapeake Science on the Internet for Educators). The site is located at www.bayeducation.net.

State Role
State government participants include: DCR, DEQ, DGIF, DOE and VIMS

Support the efforts of the CESC in maintaining this clearinghouse through participation on the subcommittee's Education Workgroup.

Progress/Outlook
The project was initiated in May 2001 with phase one completed November 1, 2001. The version site undergoes an annual peer review by teachers and is updated accordingly.

Additional Efforts
The CESC continues to seek funding to maintain the site through the CBP budget process

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5.1.4 -
Beginning with the class of 2005, provide a meaningful Bay or stream outdoor experience for every school student in the watershed before graduation from high school.

Department of Environmental Quality -

Year: **2003**

Approach to Implementation

Education staff at natural resources agencies, state museums, and the Department of Education will implement a coordinated plan for integrating meaningful watershed field experiences in the public school program statewide. This includes formal communication of pertinent information to school divisions; integration of related topics within appropriate SOL educator workshops; presentations at teacher

conferences; public television, satellite, and other electronic training broadcasts; and meetings with school division leaders. New supplementary curriculum materials will be developed and used in conjunction with existing high-quality resources to promote meaningful watershed field experiences across grade levels. In-depth leadership training for school division representatives is tentatively planned to build local capacity to meet the objective.

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State Role
State government participants include: DCR, DEQ, DGIF, DHR, DOE, DOF, VCE and VIMS as well as the Virginia Museum of Natural History (VMNH) and the Science Museum of Virginia (SMV). These comprise most agencies represented on the Virginia Resource-Use Education Council.

The commonwealth's role in meeting this objective is to provide awareness and leadership training for key school division personnel, in concert with the state learning standards, to implement meaningful watershed field experiences for public school students statewide.

Progress/Outlook
Anecdotal evidence suggests that many public schools are already partially meeting the intent of this objective via locally developed programs, especially those supported with existing state funding (MRC and DCR provide funding to the Chesapeake Bay Foundation) for watershed field experiences. Other sources of information such as soil and water conservation district education programs also are of assistance.

Additional Efforts
Meeting this objective by June 2005 will require a sustained implementation, including materials development, teacher training and professional development, awareness of successful models at various grade levels, close correlation with the Standards of Learning, and enhanced building and central office administrative support.
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5.1.5 -
Continue to forge partnerships with the Departments of Education and institutions of higher learning in each jurisdiction to integrate information about the Chesapeake Bay and its watershed into school curricula and university programs.

Department of Environmental Quality -

Year: **2003**

Approach to Implementation
Meeting this objective by June 2005 will require a sustained implementation, including materials development, teacher training and professional development, awareness of successful models at various grade levels, close correlation with the Standards of Learning, and enhanced building and central office administrative support.
- - - - -

State Role

State government participants include: DCR, DEQ, DOE, DGIF, DHR, DOF, SMV, VCE, VIMS and VMNH.

The Commonwealth's role in meeting this objective is to continue as an active partner in the Chesapeake Bay Program, primarily through participation in the Communication and Education Subcommittee. The commonwealth will continue to support the program and the subcommittee's work as it develops strategies for more closely working with state institutions of higher learning to integrate Bay and watershed data in university programs. The new state Office of Environmental Education will coordinate interagency efforts.

Progress/Outlook
A number of DOE staff have been extremely active in the CBP with one staff member serving as chair of the Education Workgroup for two years. Virginia was also host of the first Bay Program Education Summit that was held in September 1999. Virginia DOE staff provided leadership in developing a document that defines a meaningful outdoor watershed experience as being more than a one-time event but as an element of integrated Bay and watershed curricula. This concept has been adopted by the Education Workgroup and guides efforts to meet commitment 5.1.4. Because of the importance of this commitment and its 2005 due date, it has been the priority for the workgroup. In Virginia, the definition and criteria developed for a meaningful outdoor watershed experience supports the Science Standards of Learning.
- - - - -
Additional Efforts
Key leaders from the institutions of higher education who are instrumental in teacher education programs will be identified and invited to become involved in the Education Workgroup. Participation of higher education faculty will assist in forging partnerships with institutions of higher education. In addition information on the education bullets (5.1.4, 5.1.5, 5.1.6) will be provided to the science and science education faculty in the institutions of higher education.
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5.1.6 -
Provide students and teachers alike with opportunities to directly participate in local restoration and protection projects, and to support stewardship efforts in schools and on school property.

Department of Environmental Quality -

Year: **2003**

Approach to Implementation
The natural resources agencies, the state museums, and DOE will coordinate ongoing mailings, informational meetings, workshops, and electronic communications sharing information about watershed monitoring, protection, and restoration programs suitable for student and teacher involvement.

State Role

State government participants include: CBLAD, DCR, DEQ, DGIF, DHR, DOE, DOF, SMV, VCE, VIMS, and VMNH. These comprise most agencies represented on the Virginia Resource-Use Education Council.

The Commonwealth's role in meeting this objective is to ensure that key school

personnel and school division central office contacts have current information about the various watershed monitoring, protection, and restoration programs that can involve teachers and students both at school sites and in the community.

Progress/Outlook

Information about school- and community-based watershed stewardship programs and activities has been made available by state agencies and their other public and private partners through the Virginia Naturally initiative, mailings, teacher workshops, and various professional meetings. A continued and systematic effort will be conducted at the beginning of the 2001-2002 school year through mailings, electronic broadcasts, professional meetings, and informational sessions. Exemplary stewardship programs will continue to be highlighted via the Virginia Naturally School Site Recognition Program to serve as models for other schools. Portfolio summaries of the four Chesapeake Bay model high school projects will also be made available.

Additional Efforts

Meeting this objective will require ongoing communication and training sessions with key school division personnel and classroom teachers.

5.1.7 -

By 2002, expand citizen outreach efforts to more specifically include minority populations by, for example, highlighting cultural and historical ties to the Bay, and providing multi-cultural and multi-lingual educational materials on stewardship activities and Bay information.

System Administrator -

Year: **2003**

Approach to Implementation

The Chesapeake Bay Program has established an Environmental Justice Task Force to coordinate this and other commitments. The task force has developed specific strategies for short-term efforts to initiate better minority outreach. The Communications and Education Subcommittee is working with the EJTF to incorporate these strategies into their current outreach efforts.

State Role

The number of state agencies involved in this process will increase as the task becomes better defined. Currently several agencies are involved in decisions involving strategies and materials needed by participating on the CBP's Environmental Justice Task Force and Communications and Education Subcommittee.

Progress/Outlook

If minority outreach is to be effective and ongoing, it needs to be incorporated into the Bay Program's overall outreach plan, with special attention paid to the appropriate messages and vehicles for delivering those messages to minority populations. This is being addressed as part of a public perception survey being developed now by the CESC.

Additional Efforts

The state will use the results of the perception survey in reviewing all of its Bay related information strategies and materials with particular emphasis on needs in reaching minority populations.

5.2 - Community Engagement

5.2.1 -

Jurisdictions will work with local governments to identify small watersheds

where community-based actions are essential to meeting Bay restoration goals—in particular wetlands, forested buffers, stream corridors and public access and work with local governments and community organizations to bring an appropriate range of Bay program resources to these communities.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

This commitment is already underway in most localities and watersheds. Local governments in partnership with conservation groups, civic organizations through Watershed forums (e.g. WCRs) have been working to involve local citizens in watershed restoration, enhancement and awareness initiatives. The Rappahannock River Basin Commission is the one legislatively created coordinating body that has been created to date and which can serve a function similar to the WCRs.

- Use regional staff to establish local relationships, establish communication on watershed level, and analyze needs within watershed
- Focus on small watershed management planning (Subsection 2.2)
- Field staff will promote watershed management planning guides as well as other technical guides
- Support Local Government Participation Action Plan
- Build effective public relations strategies on C2K objectives
- Supplement local engagement efforts with Mass Media Campaign

State Role

State government participants include: CBLAD, DCR, DEQ, DGIF and DOF.

Virginia's primary role is to provide guidance and support to local governments on Bay Program issues and foster community based watershed activities. The jurisdictions will serve as the primary conduit for technical and financial assistance to local governments on bay related issues.

Progress/Outlook

Community based environmental organizations in coordination with local government and state agencies have proven most effective in identifying restoration goals based on unique conditions of the watershed in which they are active. With proper coordination of efforts and communication of these efforts to local citizens, the cooperative networks (watershed forums) can become a major Bay Program resource to their communities. In most watersheds this network is being facilitated through the WCR. DCR developed a web-page (www.dcr.state.va.us/waterways)to provide citizens information about local watershed based initiatives and nonpoint source pollution prevention.

- Supporting community watershed organizations
- Providing 'minigrants' to support implementation
- Revised CBPA technical assistance implementation manual (addressing buffers, silviculture, exceptions, etc.)

- Virginia Taskforce expanded to the Virginia Watershed Advisory Committee and addresses all C2K commitments affecting local governments and community watershed organizations, in an effort to more effectively target and develop outreach strategy.

- 6 Watershed Management Planning workshops were conducted in May 2003 to targeted audiences of local governments and community watershed organizations
- The state is working with the CBP to develop and conduct a Community Watershed Dialogue, as a follow up to interested communities from the May 2003 workshops

Additional Efforts

State agencies, along side the localities, will need to foster increased awareness of water quality initiatives under way in the watersheds. Initiatives such as placing signs signifying water quality studies (i.e.,"Total Maximum Daily Load (TMDL) Study Area"), environmental monitoring, restoration projects or other environmental improvement activities can create increased interest and awareness for its citizens. Further, increased recognition of the groups that are actively participating in the activities is needed.

Localities are working with state agencies to develop Tributary Strategies that will address nonpoint source pollution reductions via watershed management and sound land use management principles.

5.2.2 -

Enhance funding for locally-based programs that pursue restoration and protection projects that will assist in the achievement of the goals of this and past agreements.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

State agencies, along side the localities, will need to foster increased awareness of water quality initiatives under way in the watersheds. Initiatives such as placing signs signifying water quality studies (i.e.,"Total Maximum Daily Load (TMDL) Study Area"), environmental monitoring, restoration projects or other environmental improvement activities can create increased interest and awareness for its citizens. Further, increased recognition of the groups that are actively participating in the activities is needed.

State Role

Virginia's natural resource agencies are responsible for coordinating the overall effort of sustaining locally driven programs and projects relative to the new agreement. Virginia will seek to secure funding for such programs and assist organizations in program development and project completion. The state is working with the CBP to identify appropriate funding sources for localities, as well as ways the CBP can help provide additional support. Under the Water Quality Improvement Act, DCR funds a variety of small watershed restoration and pollution reduction projects.

Progress/Outlook

A comprehensive matrix of available state, federal and non-profit funding sources has been developed and is being disseminated to interested stakeholders. However, lack of funding and staffing resources can severely limit future progress of this commitment.

Additional Efforts

A complete and coordinated matrix of overlapping and complementary programs and

initiatives needs to be completed in order to properly solicit and allocate available funding. The most critical aspect of this goal is assuring the sustainability of the locally based programs and insuring that sufficient resources are available to maintain viability of the projects.

The National Fish and Wildlife Foundation (NFWF) is targeting the Small Watershed and Legacy Grants Program to those groups working to develop and/or implement watershed management plans that pursue restoration and protection projects in accordance with Chesapeake Bay Agreements. Virginia participates in the NFWF grant review process for these funds to ensure localities and CWOs recieve opportunities to implement such projects.

5.2.3 -
By 2001, develop and maintain a clearing house for information on local watershed restoration efforts, including financial and technical assistance.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation
The Bay Program subcommittees are coordinating with CWiC to develop a Bay wide clearinghouse. The commitment is currently being met on a smaller scale by way of local planning district commissions or other multi-jurisdictional commissions or forums via Internet sites and list servers; this however is not well coordinated. In addition to local clearinghouses the Chesapeake Bay Program currently has an online information system. The Chesapeake Information Management System (CIMS) is a clearinghouse of publications, reports, fact sheets, and special interest studies in the Chesapeake Bay and tributaries.

State Role
Virginia will continue to support and provide coordination where feasible to local clearinghouse efforts, contribute to CIMS and actively participate in the relevant Bay Program subcommittees.

Progress/Outlook
Virginia agencies are documenting projects, tracking progress and calculating nutrient reductions. The successful maintenance of this effort requires expansion of existing state agency GIS and data collection staff and coordination with the Bay Program to ensure that the data gathered is consistent with other jurisdictions.
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Additional Efforts
Additional resources at state and local levels will be needed. Data standards must be established to assure consistency and transferability. Capability to effectively track NPS pollution and reductions does not yet exist in most local governments, and systems among local governments are not compatible with each other and state systems. Local governments will require substantial funding to establish this infrastructure. State government systems also are minimal and require expansion to address the various needs of C2K.

5.2.4 -
By 2002, each signatory jurisdiction will offer easily-accessible information

suitable for analyzing environmental conditions at a small watershed scale.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

The Internet will be the principal medium for providing access to suitable information, and state agencies with such information will develop and maintain publicly-accessible websites. In order to maximize ease of access to data that may be of use for small watershed planning, Internet browser access is necessary. For the data to be retrievable in units that met the spatial requirements of the requestors, or to at least reduce the data to be retrieved per request, some form of querying of the data prior to retrieval is expected. To make all data relatable to one another in a spatial framework, the data must be tied to consistent standardized spatial unit references.

State Role

This is an evolving task at the state level. Virginia agencies are working to increase coordination among their respective data systems and to make it accessible and useful for small watershed efforts.

There are a number of Virginia agencies with data that are of use in small watershed planning efforts, including CBLAD, DEQ, DCR, VIMS, DOH, DOF, and DGIF.

Progress/Outlook

DCR has implemented the above approach with some of its data. To date that includes making land cover, NPS nutrient loadings, NPS nutrient rankings, best management practices (BMP), and conservation reserve enhancement practices (CREP) data available by various standard reporting units, such as small watersheds, basins, Chesapeake Bay model segments, Soil and Water Conservation Districts, and jurisdictions of the Commonwealth. Access is made through the appropriate program specific pages of the DCR web site. Data records output from queries built using menus can be viewed or retrieved for use in a spreadsheet, etc. at the user end. In addition, for the NPS Assessment information web based map services provide graphical representations of statewide conditions.

DCR's Natural Heritage Program makes information on natural heritage resource locations and conservation sites available by a number of standard reporting units, including small watersheds, basins, physiographic regions, and jurisdictions of the Commonwealth. In the coming year DCR will be enhancing this database to include the ability to identify and get reports on natural heritage resources in the vicinity of an entered point, line or polygon.

No effort has been made to make all state agencies use a similar system of data retrieval.

Additional Efforts

Most of the state data is at a scale that, while at least large enough to be pertinent to these efforts, may often lack the detail needed for watershed analysis and implementation of corrective actions. Local or district input to complete the data inventory would be necessary in many cases.

More of the data developed and maintained by state agencies needs to be browser accessible and geocoded to standard spatial units.

The Virginia Geographic Information Network (VGIN), now part of the newly created Virginia Information Technology Agency (VITA), will be seeking to enhance its Internet presence to identify and link up data made available by various state agencies.

5.2.5 -
Strengthen the Chesapeake Bay Program's ability to incorporate local governments into the policy decision making process. By 2001, complete a reevaluation of the Local Government Participation Action Plan and make necessary changes in Bay program and jurisdictional functions based upon the reevaluation.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation
Mechanisms are in place through existing state programs, watershed forums and the CBP's Local Government Advisory Committee (LGAC). It is the intent to maximize these avenues to engender greater participation.

State Role
State government participants include: CBLAD, DCR and DEQ.

Virginia natural resources agencies will serve as the primary avenue through which financial, technical and educational resources are developed and delivered to the localities. Further, agencies will continue to actively participate on relevant Bay Program committees.

Progress/Outlook
Virginia agencies have the necessary contacts with localities to implement this commitment. Mobilizing these contacts will involve strengthening stakeholder groups to help shape the LGPAP to ensure it is effective. The LGPAP also needs to be crafted with Implementation Committee involvement, as a joint project.

- Use regional staff to establish local relationships, establish communication on watershed level, and analyze needs within watershed
- Focus on small watershed management planning (Subsection 2.2)
- Technical guides, *Local Watershed Management Planning in Virginia* and *Guidance Manual for Total Maximum Daily Load Implementation Plans*
- Support Local Government Participation Action Plan
- Build effective public relations strategies on C2K objectives
- Supplement local engagement efforts with Mass Media Campaign

Additional Efforts

- Supporting community watershed organizations
- Development of C2K implementation tracking database, accessible via the Internet, allowing local governments to view state's progress towards meeting goals of C2K and more effectively target resources
- Providing mini-grants to support implementation
- Revised CBPA technical assistance implementation manual (addressing buffers, silviculture, exceptions, etc.)
- Virginia CWiC taskforce expanded (to VA Watershed Advisory Committee) to address all C2K commitments affecting local governments and community watershed organizations, in an effort to more effectively target and develop

outreach strategy

5.2.6 -

Improve methods of communication with and among local governments on Bay issues and provide adequate opportunities for discussion of key issues.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

The watershed forums, soil and water conservation districts, the one basin commission in the Bay watershed and planning district commissions, are the major avenues through which local governments can be represented and informed on Bay issues.

The Local Government Advisory Committee (LGAC) of the CBP recently launched an important new website: www.BayLogin.org . The website is anticipated to be an important tool to enhance and foster new communication between local governments and the Bay program. While there are limintations to internet-based applications, Bay LOGIN services suchs as news flashes, newsletters, queries, surveys, archives, and links will enhance the ability of local governments to participated in Bay watershed activities and decisions.

The CBP, in cooperation with LGAC, will develop for all CBP task forces and workgroups a checklist that outlines positive actions that should be undertaken to meet the spirit of intergovernmental cooperation outlined in the new agreement and the draft revision of the CBP Local Government Participation Action Plan. This will ensure that task forces and work groups are aware of the goals of the LGAP and that they have a meaningful way to determine whether they are helping to implement its goals.

State Role

State government participants include: CBLAD, DCR and DEQ. The State needs to support the development of the CBP “tool kit” and other resources, including electronic transmission capabilities, to improve state delivery of CBP message to local governments. CWiC is the current CBP entity overseeing this effort. Further, greater emphasis needs to be placed on watershed forums from state policy-makers.

Progress/Outlook

The state has supported the CBP CWiC in efforts to develop outreach messages to local governments, as well as the “tool kit” and the development of watershed management planning webpages. These webpages will provide links to numerous resources, while explaining the benefits of watershed management planning.

The Secretary of Natural Resources developed a new natural resources website to share information with the public. This website provides information on C2K, Tributary Strategies and the Stewardship Virginia campaign. Additionally, information about all of Virginia’s natural resource agencies can be accessed via this website. (http://www.naturalresources.virginia.gov/) The Annual Watershed Management Conference has also proven to be an effective mechanism for enhancing communication education with and among local governments.

Additional Efforts

Funding to equip local governments with the infrastructure needed to carry out C2K

and CBP initiatives.

5.2.7 -

By 2001, identify community watershed organizations and partnerships. Assist in establishing new organizations and partnerships where interest exists. These partners will be important to successful watershed management efforts in distributing information to the public, and engaging the public in the Bay restoration and preservation effort.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

Both Virginia and the CBP have committed extensive effort to this process. Existing community watershed organizations were identified through a comprehensive survey completed by the CBP's CWiC. This data is being used to strengthen local partnerships and forward watershed management efforts.

Additionally, DCR's Watershed Field Coordinators maintain a database of community watershed organizations and provide ongoing assistance to groups attempting to build watershed organizations.

State Role

State government participants include: CBLAD and DCR.

Virginia is working closely with existing watershed organizations and encouraging the development of new organizations where interest exists. To support this effort, tools are being developed in cooperation with the CBP to sustain community watershed organizations.

DCR offers training to watershed management organizations, and is enhancing its database about these organizations to improve the state's commitment to grass-roots environmental interests.

Progress/Outlook

DCR provides funding (when available) to such projects through the 'minigrants' program to community groups working to form or strengthen watershed organizations. Projects funded demonstrate capacity to build a successful partnership based on needs within the community to restore habitat and water quality through developing and implementing watershed management plans.

Additional Efforts

Virginia will continue its efforts in creating, maintaining and supporting existing partnerships. Additional tools and resources will be needed as conditions warrant.

The National Fish and Wildlife Foundation also provides funding support for these types of projects to successful applicants to the Small Watershed and Legacy Grants program.

5.2.8 -

By 2005, identify specific actions to address the challenges of communities where historically poor water quality and environmental conditions have contributed to disproportional health, economic or social impacts.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

Several existing programs address this commitment, including funding loan opportunities and community development block grants. DCR's Adopt-A-Stream and Storm Drain Stenciling programs work with underserved communities to educate citizens about nonpoint source pollution.

We are also awaiting the recommendation of the Chesapeake Bay Program Environmental Justice Taskforce to determine what additional strategies might be appropriate.

State Role

A number of state agencies are working together to evolve an approach to this commitment. In particular, the state will be determining how to relate this commitment to work proceeding and planned for the Elizabeth River, which is one of three toxic contaminants "areas of concern" designated by the Chesapeake Bay Program.

Progress/Outlook

This commitment requires a coordinated effort to identify parameters of comparison. There has been limited progress towards meeting this commitment, however with the recent renewal of VA's commitment to the Elizabeth River Project, state agencies will be working closely with ERP, the cities of Chesapeake, Portsmouth, and Norfolk to identify these actions.

Additional Efforts

Additional resources will be needed at the basin level to collect and analyze data and identify and implement resulting actions.

5.3 - Government by Example

5.3.1 -

By 2002, each signatory will put in place processes to: 1. Ensure that all properties owned, managed or leased by the signatories are developed, redeveloped and used in a manner consistent with all relevant goals, commitments and guidance of this Agreement. 2. Ensure that the design and construction of signatory-funded development and redevelopment projects are consistent with all relevant goals, commitments and guidance of this Agreement.

System Administrator -

Year: **2003**

Approach to Implementation

To the extent possible this commitment will be met through existing state processes and requirements. A review will be conducted to determine if additional efforts would be appropriate.

State Role

This commitment applies to all state agencies and institutions which have properties and which provide funds for development and redevelopment projects.

Progress/Outlook

State agencies already are under numerous requirements to carry out their missions in an environmentally sensitive manner. To some considerable extent, this commitment is being met through two state environmental review processes; one for Virginia Department of Transportation projects and one for all other state property projects that

pass the cost thresholds of $250,000 for renovations and $500,000 for new construction. Additional stewardship guidance consistent with the Agreement is provided by several state executive orders including those for pollution prevention, riparian forest buffers and conservation treatment of state-owned agricultural lands.

State staff are participating in the development of implementation strategies for many of the commitments. Those efforts will help inform the review that is to be conducted.

Additional Efforts

Until the review is completed it is premature to speculate on specific additional efforts that might be required. However, if meeting the commitment were to require significant additional tracking and coordination activities, then additional resources would be needed. If significant additions were to be made to the environmental requirements that major state projects and state funded projects must meet the additional resources needed might be considerable.

5.3.2 -

Expand the use of clean vehicle technologies and fuels on the basis of emission reductions, so that a significantly greater percentage of each signatory government's fleet of vehicles use some form of clean technology.

Department of General Services -

Year: **2003**

Approach to Implementation

The Department of General Services reports annually to the Department of Energy regarding the actual use of alternative fuels in Alternative Fuel Vehicles (AFVs). Improvements are needed in this area.

State Role

The Department of General Services manages this program for the Commonwealth.

Progress/Outlook

The state is complying with the requirement of the Energy Policy Act to go through a phased replacement process whereby 75% of vehicles purchased for use in the areas affected by the Act will be capable of operating on an alternative fuel. Since 1998 the state has been purchases Alternative Fuel Vehicles (AFVs) that are powered by both gasoline and natural gas.

Additional Efforts

At the national level improvements need to be made in the utility of generally available alternative fueled vehicles. Within the Commonwealth improvements in the number, distribution and accessibility of natural gas fueling sites would make it more likely that the use of the AFVs in the natural gas mode would increase.
Efforts will be initiated during the coming year to increase the use of compressed natural gas in the bi-fuel vehicles within the state's fleet.

5.3.3 -

By 2001, develop an Executive Council Directive to address stormwater management to control nutrient, sediment and chemical contaminant runoff from state, federal and District owned land.

Department of Conservation and Recreation -

Year: **2003**

Approach to Implementation

(This commitment is completed.)

In 2001, a task group was assembled to develop a directive for consideration by the Chesapeake Bay Program's Implementation Committee, Principals' Staff Committee and, finally, the Executive Council. The task group was composed of representatives of the Chesapeake Bay agreement signatories and other interested parties.

State Role
State government participants included: CBLAD, DCR, DEQ, DGS and VDOT. While the task group was a CBP effort, a Virginia staff person chaired the group and staff of other state agencies participated as well.

Progress/Outlook
On December 3, 2001 the Executive Council of the Chesapeake Bay Program signed Directive No. 01-1, Managing Storm Water on State, Federal and District-Owned Lands and Facilities . The directive took effect immediately. The directive contains guidance on actions to be taken in six areas related to storm water management:

- Create an inventory of target public lands
- Demonstrate how to manage storm water
- Analyze the economics and effectiveness of demonstration projects
- Educate others on how to manage storm water
- Develop innovative storm water technologies
- Coordinate with communities and local governments
- Measuring progress

Additional Efforts
The adoption of the directive by the Executive Council completes this particular commitment. Implementation of the directive, of course, will be an ongoing matter.

5.4 - Partnerships

5.4.1 -
Strengthen partnerships with Delaware, New York and West Virginia by promoting communication and by seeking agreements on issues of mutual concern.

System Administrator -

Year: **2003**

Approach to Implementation
The Chesapeake Bay Program is leading implementation of this commitment.

State Role
N/A

Progress/Outlook
N/A

Additional Efforts
N/A

5.4.2 -

Work with non-signatory Bay states to establish links with community-based organizations throughout the Bay watershed.

System Administrator -

Year: **2003**

Approach to Implementation
The Chesapeake Bay Program is leading implementation of this commitment.

State Role
N/A

Progress/Outlook
Through participation in the CBP, the state is working to strengthen these relationships and meet water quality requirements.

Additional Efforts